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The Course of Study

A MONTHLY PUBLICATION FOR TEACHERS AND PARENTS

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THE COURSE OF STUDY

A PUBLICATION FOR TEACHERS AND PARENTS

ISSUED MONTHLY—TEN NUMBERS A YEAR.

Reading in the Primary Grades

Flora J. Cooke

THE TEACHING of reading is a question that appeals to every teacher in the primary grades. It is therefore chosen as the first subject of discussion in this department in the COURSE OF STUDY. On account of limited space it was thought best to present in this article only the general plan of work, and some of the reasons for its adoption.*

THE PRESENT WORKING HYPOTHESIS is that the children may learn to read as naturally as they learn to talk and for exactly the same reason, i. e., from the desire to find out something or to tell something.

If this hypothesis is accepted reading will be used only as a means of arousing images.

Considered from the child's standpoint, learning to read will be incidental to some other work in which he is interested, as manual training, literature, or nature study; and the mastery of the mechanics of reading and writing will be essential to the children, both in the gaining of desired ideas and in their expression. Thus they will add their motive to that of the teacher and both will work directly to the same end.

It would be most helpful in discussing this question to analyze the prevailing and established methods of teaching reading, as the phonetic, word, and sentence methods. In each case one finds some principle so exaggerated and focused in such strong light by the unqualified approval of its originator that its value can be most easily seen and appreciated; but it is in its application that we recognize the limitations and dangers of even the best of these systems.

In the use of any of the so-called successful methods, the teacher invariably fails until she discovers some stimulus which reacts upon the will power of the children. They must first desire to read; after the desire is awakened the child will learn by any method, with or without a school. He will find a teacher. The line of least resistance which he instinctively follows, the economy of time and effort exercised by him when teaching himself to read, is an excellent school of observation. Yet the service to the child of the right teacher cannot be overestimated. She can understand his instinctive efforts and supplement and aid him by her knowledge of the laws of association, interest, and fatigue; and upon her choice of material will depend, to a large extent, his early reading habits and tastes. She is sometimes needed to counteract the false sentiments which overanxiety and pressure in the home cultivate in children. Very often their first desire to read is secondary to another motive, the desire to gain praise or reward from teacher or parents, or even to escape

* These observations appeared in part in *Primary Education* for March, 1900.

punishment. But in every case all who have watched little children learning to read will agree that success is in direct ratio to the intensity of the desire as measured by the child's willing effort and growing satisfaction in his work. The old law of custom asserts that a child must first gain vocabulary; he must mechanically repeat words and idioms until they are functioned. This dead process has been for years sugar-coated with pictures, lately with most artistically colored ones. It is now taking the form of the action game.

The action game certainly has a place in the child's life. It is good in so far as it is an unconscious incentive to closer observation and bodily control. There are no games which children enjoy more keenly than those in which they act out something (varying from the simplest exercise to a complex story), while the class tries to guess what is represented. The written descriptions of birds, flowers, etc., are equally valuable and enjoyable, and their interest helps them to overcome many obstacles in reading and writing. Again, there are necessary things to be done all day long, where the teacher may use the blackboard for giving directions, utilizing this form of the game.

But why waste the effort and energy of the children in an endless "Close your eyes," "Open the window," "Roll the sphere," just because the action will hold their attention? As a method of teaching reading, it seems to me that it must take its place as a merely attractive way of getting the old-fashioned mechanical drill on words and idioms. We have all recognized the law that color and action are to children the "ignition points" of interest in the objects around them. Are we not ready for the next step?

GAINING THE NECESSARY REPETITION OF WORDS: We believe that there is a legitimate repetition of words inherent in the study of any subject worthy twenty minutes of the children's time. Surely there is color enough and action enough in doing things of relatively permanent value to them. The following illustration may make this point clearer: The child comes daily into contact with the same things in zoölogy, botany, geology, and meteorology. The same words come constantly into use as he watches and asks questions concerning the things which attract him. For instance: For explanation and expression concerning the movements of the common animals, as the birds, insects, fish, horse, cat, dog, one set of words is demanded, as fly, crawl, swim, run, etc.; for describing their coverings another, as feathers, scales, hair, and fur; other words and several idioms are necessary in considering their food and homes. The little child cannot go far into the details of animal study. He does not care to analyze except for one purpose: the understanding of some special thing which he wants to know. A forced, close analysis kills interest, as does the repetition of facts which he already knows, as "The rabbit has two eyes," "The leaf is green," etc. How then can he get the necessary repetition? It comes naturally if he is allowed to come into contact with real things. For as he cannot go far into the minutiæ of animal study, he turns to something else, perhaps to the plants. He finds here the same familiar animals dependent upon the plants for food; or if he works in his garden he sees the use of the soil to both plants and animals, and he comes gradually, incidentally, and through simple experiments to notice how all depend upon heat and light and upon each other for existence. It is all one thing, and it makes no difference where the child begins if the teacher knows what he is doing and follows him. Working with the same things again and again, from different standpoints of

observation, must bring about repetition of the same words, for he meets the same things in stories, in nature, in different phases of industry, personal and social; moreover, the constant changes in the things themselves continually demand new words: so that the child's vocabulary grows naturally as his mental images expand.

THE TEACHING OF NEW WORDS. These are selected because of their necessity in written expression, as usually they have already been in the child's speaking vocabulary. Their presentation is also of immediate use in impressing more strongly the work in hand. The nature of the lesson, a story or an experiment, determines the details of the presentation of the words, but the plan is in general as follows: As a material or object is used, and the child is told what it is, its name is written upon the blackboard that the child may associate the written form with the thing of greatest interest at the time. That word is usually not again used orally during the lesson, the teacher pointing to the written word or writing it every time the thought demands its use; but the strongest impression is made by the child's own expression. They have perhaps been examining the soils, and the teacher asks, "Which soil will you use for your garden?" The children all pass to the blackboard and answer "sand" or "loam" according to their choice. This is a record and is used as such in the work that follows in finding out which soil is best. During the first lessons the children express their thoughts, when possible, in one word, later on in full sentences. From the first, full records are made and used. During or after an experiment the children tell what was done and discovered, and the teacher writes their statements upon the blackboard, and thus they picture the experiment over again step by step. If they have mastered the necessary written forms they pass directly to the blackboard, and tell what they had, what they did, and what they found out. These statements are often copied by the teacher and sent to the printer. In the reading lesson which follows, the children's motive is to see if all have found out the same thing. In this manner drill is obtained which is justified by the fact that it is incidental to some result, for which the children feel an immediate use. It will be seen that while writing and reading have each a distinct place and purpose in all the work, the one supplements and reënforces the other.

WORDS WHICH HAVE NO INTRINSIC MEANING, as conjunctions, definitive adjectives, prepositions, etc., are generally functioned by use, but they receive special attention whenever individual children seem to need it. Drills of this kind are understood in a common-sense way as means to a definite end, and the time of the entire class is not wasted upon forms which are already in automatic use by many of the children.

THE USE OF THE DICTIONARY. A good plan to make the children independent in the use of words is to allow each child to make and index a simple dictionary in which he places the written and printed words as fast as he becomes familiar with them. One period each week is usually devoted to this work. The words thus functioned and placed in the dictionaries would probably average about three hundred during the first year, and they do not differ to any great extent from the words in an ordinary "first reader."

PHONICS. The work in phonics has been, during the first part of the first year, entirely distinct from the work in reading. Its purpose has been to give the child the independent power of associating certain sounds with certain forms in the most economical way to strengthen his

vocal organs, and so to lead to clear enunciation and good pronunciation.

The work has usually been given in the form of games, which have brought in much exercise in slow pronunciation—the guessing game, with lists of rhyming words, many Mother Goose ditties, and rhythmic poems. We have not used the diacritical marks except in special cases until the children felt their need of a real dictionary in the third grade.

THE NECESSITY OF SELECTING READING FOR SMALL CHILDREN. We will all agree that a teacher's chief work is to bring children into contact with good things in nature, literature, art, and society in such a way as to constantly increase their interests, experience, powers of influence, and opportunities for free expression. Do we sufficiently use reading for this purpose? In primary grades, while in many cases the quantity of ready material is abundant, it is not carefully selected or varied in style. For convenience we have classified our reading material under five headings.

(*a*) A lesson may place before the children for their consideration their various experiences and observations in a subject. Something new should always come to the children for such a review.

Example

Water

NOTE.—The following lesson of this type came after a month's work upon water, where the pupils tried to purify water for drinking by filtering, boiling, etc. They had used the water which they had brought home from a lake, a swamp, and other places, and this lesson tested their powers of inference by giving them a new standpoint of observation.

We played that we went out on the ocean.

We had no water to drink.

We were very thirsty.

Some one said, "Let us get water from the ocean."

We did this, but the water was salt; it made us more thirsty.

Carleton said, "Let us strain the water."

We did this, but the water was still salt.

Donna said, "Let us boil the water."

We did this, but the water was still salt.

Hans said, "Let us catch the vapor from the water upon a piece of glass."

We did this—the water was fresh.

How do you think we got enough to drink?

(*b*) It may give data or useful information.

Example

Glass

NOTE.—The following lesson came after Christmas when the children had had four months' observation upon stones and their use. One child brought some quartz and insisted that it was glass. If there had been a glass factory within reach we should have visited it. As there was not, the information was, with the help of pictures, given to the children in the form of reading lessons.

Men make glass of quartz, sand, and lime.

They put sand and lime in big clay jars.

They melt the sand and lime in the fire.

Then it looks like molasses.

They put a long tube like a horn in the soft glass.

They can blow it into shape with this.

That is how men make glass bottles and vases and lamps.

Henry was almost right, was he not?

Quartz is not glass.

But glass is melted quartz with lime in it.

(*c*) It may be a simple plan of work, concise and clear.

Example

Measuring Box

NOTE.—The children need about six months' work in which the blackboard is used as a medium for dictation before they are ready for the lesson below. In this case they had made a plan for a box and knew its use. The teacher said, "I have a plan for one which will take less paper. See if you can make it." Each child was supplied with materials and allowed to follow the plan.

Take the cardboard.

Make a 4-inch square.

Place a dot 1 inch from each corner on each line.

Connect opposite dots.
Cut out 1-inch square in each corner.
Find the four small rectangles.
Fold them upward.
Always keep the lines inside the box.
How long, wide, and high will the box be?
How many cubic inches will it hold?

(*d*) It may be a good or beautiful description of something within their own experience.

Example

We came early in the springtime.
Children love us very much.
There are many, many of us.
We are happy in the sunshine.
We are happy in the shade.
We look like gold in the grass.
After awhile we look like silver.
We are short when we are young.
We grow tall as we grow older.
Once I wore a yellow dress.
Now my children dress in laces.
Soon the wind will take my children.
Then I shall be bald and lonely.

(*e*) It may be an educative story. This last type needs no illustration.

THE READING RECITATION. This of course does not follow a fixed plan. Sometimes the children have read silently, each a different thing (perhaps very simple and short), and told the class what they have found out. Often they have read silently and expressed the result in drawing, after which the expression was judged by the oral reading of the story represented.

As an oral reading the sole motive should be to arouse in others some definite image. It is very necessary in the beginning to get the reading attitude right; for this reason reading lessons where the entire class read the same thing have been largely cut out of the first year's work. When they have read aloud they each have a different story, paragraph, or sentence, so that they feel the necessity of making themselves understood. Of course there are exceptions to this rule.

An adequate discussion of the place and value of oral reading requires the space of another article, and it must therefore be postponed until later in the year.

Finally, we can agree that while we may perhaps know the difficulty of getting good reading for little children, we would have every reading lesson which is put into children's hands or written upon the blackboard stand at least the three following tests:

(*a*) It should be so satisfactory to the child that its reaction will be a greater desire to read.

(*b*) It should make an appropriate demand for good reading habits and good taste.

(*c*) It should contain an image worth a child's effort, *i. e.*, it should have some intrinsic value either in the subject-matter which it presents or in the emotions which it is capable of arousing in the children.

In the COURSE OF STUDY each month some phase of primary work will be presented. For instance, the present working hypothesis concerning the teaching of reading, writing, spelling, language, and number will be stated and various methods of work discussed.

All questions relating to the work in the grades should be addressed to the Department of Applied Pedagogy. These will be referred to the grade teachers and answered if possible in the COURSE OF STUDY for the following month. The reading lessons printed for the grades during the month will be given in this department. If sets of these lessons are desired they may be ordered by number from the Book Room of the Institute.

History and Literature

Emily J. Rice

The conditions of modern life are forcing us to a wider interest in social welfare and a new conception of social duty. We are slowly coming to believe that the individual realizes his best self only in the larger experience of the whole. This view of life involves a conscious attempt to give the individual a true appreciation of his relationships. As long as we are without a knowlege of the needs of the community, and without a consideration for the general interests, society must suffer. The task of education is to furnish conditions for the development of the social spirit. This demands that the school bring to bear upon the child all those influences which tend to give an understanding of human life and to cultivate habits of helpful action.

Acquaintance with society comes to the child in two ways. It is constantly making demands upon him to which he must respond; he learns to interpret his own actions by their effect upon others, and so finds his place in present life. This action and reaction begins in the home, and gradually takes in wider relationships; by it the educational process is carried on unconsciously; through it the natural evolution of society takes place. But the school may add to this natural process by giving the individual a more adequate conception of his social inheritance. Progress demands that we build upon the foundations that others have laid, and the needs of society can be fully met only by those who appreciate the way in which it has been molded into its present shape. It is the value of race experience that gives to social study its importance.

Immediate interests furnish the key with which to unlock this treasure-house of the past, and where knowledge of the past is intimately related to the present it becomes a stimulus to action. If we take the child out of his environment and compel him to live in times utterly foreign to his experiences, history must be an isolated and lifeless thing.

Since it is individual interest in present life on which history must build with vivifying and broadening influence, it is necessary to take into account at each step of our work both the child's experiences and the related experiences of the race. Our history course must not necessarily follow the order of historical progress, but find its material in whatever illuminates the activities in which the child is taking a part, since by these activities he is entering into race experiences. In the social study of the school it is possible to organize these activities to better advantage than in the home. Here the children may share in the labor that has been the means of race improvement, and trace from the primary necessities of man his industrial, social, and political progress. The industries, social life, and political institutions of our own time all have their meaning rendered more clear by the search-light of historic revelation, but each must be used as material for study only as the children can enter into that phase of human experience.

KINDERGARTEN: As the youngest children are especially occupied with what concerns people, with action, with the work that is going on around them, the panorama that human life presents is for them the

best means of education. The conditions of human life that appeal to them are not the same as those which appeal to older people. They are interested in what others are doing, that is, chiefly in occupations. These they have observed in the home and immediate neighborhood. In the Kindergarten, home life and neighborhood life will be reproduced by means of simple material for building and furnishing a playhouse, and by games which utilize the child's desire for play. Experience has taught us to expect little except observation and imitation of existing conditions. We shall not undertake to trace the history of occupations, but shall confine the work to what is merely social. In October we shall begin the construction of the playhouse.

First Grade: The work for this year will continue the study of the children's own home life, and the industries with which they come into immediate contact. The children will experiment in making, furnishing, and decorating rooms of a playhouse, molding clay dishes, cooking food, constructing garden tools, making cloth, and sewing. Their ingenuity in handling material will lead them to make, incidentally, many inventions similar to those that have met the primitive necessities of man. After they have made for themselves any special improvement in their work, stories from history will be told to show the work of others under similar conditions.

The materials that enter into their work, as wood, clay, grains, wool, flax, and metals, will be traced from their sources, and a simple study made of manufacture. The children will be encouraged to find the easiest ways of doing their work, and will visit some of the industrial plants that furnish supplies to the home, and thus gain an opportunity for comparing their own crude methods with those more advanced. The subjects of lighting, heating, and ventilation will be considered. Each problem will be set in so simple a way that the children may understand it, and our aim will be to cultivate inventiveness, independence, and manual skill. As in the previous year, the work is chiefly social, but some use is made of historical and literary stories to broaden the child's view of the value of his own efforts. In October, we shall consider the question of building, and visit lumber-yards and houses in the process of construction.

Second Grade: In this grade we add to the work the children have already done in industries a more definite historic study. We go back in time to those who made the beginnings of inventions—to primitive man—and trace the development of the arts through their earliest stages. To the little children, a long time ago may be one year or many centuries. It is a question not of nearness in time, but of psychological nearness. These early people did their work by very simple methods—methods which the children approach more nearly in a dramatic way than those of any people of a later time. The inventions which they made, the children are often able to make for themselves. Each step involves presentation of conditions by the teacher and drawing of conclusions by the children. It is not our object to teach the facts about savage or barbarian life, but to build up gradually a conception of the meaning of the arts of our own time. It is the savage as a worker, an inventor, a helper, that we deal with, and it is possible to trace with each improvement in the arts an improvement in social condition. The hunter becomes a shepherd and the shepherd a farmer. Settled life takes the place of wandering, and this marks the dawn of civilization. The children see the hard work involved in improving any present state, and how people outgrow crude

methods of living. The material which this primitive life affords we have found to be the simplest means of showing the relation of past and present, and therefore the most suitable for the beginning of the history course. For the first month, we shall consider the earliest homes, the tree, the cave, and the hut, and study the problems which led to the invention of the crudest tools and of fire-making.

THIRD GRADE: In the Second Grade, the children are expected to carry the work in primitive culture as far as the metal stage. In the third, we shall take up the discovery and use of metals, and the children will do some practical work in making metal tools. For history lessons, the Homeric age of Greek life has been selected as furnishing a good type of this stage of culture and an advance upon the primitive people studied before. We shall also consider the beginnings of trade and commerce and the building of cities. This work will center around the life in Athens. In October, the story of Ulysses leaving his home for the Trojan War and his long sojourn there will be told to introduce the subject.

FOURTH GRADE: The growth of the city begun in the previous year will be carried on in this grade with Chicago as its basis. By the use of material from local history, the conditions may be imaged most distinctly. We shall first trace the early history of Chicago, visiting historic sites and relating the work closely to the topography of the region. The conditions that have led people to come to Chicago will be next considered and comparisons made with life in other regions of our own country and in other countries. Important cities may be pictured by means of photographs and the stereopticon, and some notion of the elements that make a city beautiful may be discovered. Lastly, the children will plan an ideal city and construct a model according to their own invention.

The work will begin with an investigation of present business conditions, appearance of streets, and relations to other parts of our country. Later, we shall inquire into the origin of these conditions.

FIFTH GRADE: In the Fourth Grade, the children have been led through the study of the growth of Chicago and the surrounding region to some consideration of the settlement of other regions. This year we shall take the earliest settlements in our country as our subject of study. Colonial history demonstrates most clearly the dependence of man upon certain definite physiographic areas. The children may build upon the foundation that primitive culture has given them and trace the relation of geography to occupations and of occupations to social life and government. They have now gained sufficient power in reasoning from conditions to make each problem of the settler in overcoming difficulties their own. Some of the hand-work of this home period of industry will be done in school, especially work in wool with wheel and loom. Through hand-work and dramatic representation of the period we shall aim to keep up the vitality of history study. Literature will be used as in all other parts of the course to help the children to grasp the ideals of man's life, but it will be used in each case in connection with the children's expression in their own best way of the conditions of the period.

It is in this grade that we shall first put emphasis upon the study of government. The town meeting presents the problem of government in so simple a form that it can be shown to grow naturally out of the necessities of the colonists. If the children realize the meaning of the town meeting in a dramatic way, they may gain some notion of the importance of self-

government. In October we shall study New England, especially from the industrial standpoint. The children will read selections from Whittier's "Snow Bound," and begin the study of Longfellow's "Miles Standish."

SIXTH GRADE: We have been gradually leading backward in our history from the present until we have reached the period of discovery. This will be our subject for the Sixth Grade. It will lead us to consider European conditions at the time of the Renaissance and to inquire into the geographical knowledge of that time. We shall need to relate our work closely to the study of the geography of Eurasia. The children's interest in current history will be one determining factor in the plan of the course.

In October we shall study China and try to determine the causes of its peculiar isolation, even to our own time. Following this the story of Marco Polo will lead to a consideration of the lines of trade from Europe eastward in the age of the Renaissance and the importance of the cities of northern Italy. We shall study these cities as art centers and aim to show the children something of the meaning of their art. A comparison of Florence and Venice in the Renaissance with our own city will show the great changes since that time in lines of trade and in industrial conditions. The children will then try to discover how these changes have been brought about.

SEVENTH GRADE: In this year the children will trace the early settlers in this country from their old homes in Europe and try to discover what ideas of social life and government they brought with them. Leading backward, they will come to a time when Rome was the mistress of the world, and will inquire how she became so. They will then trace briefly the development of the Roman Republic and see how its people first learned to govern themselves, and then were able to conquer and govern other people. This will be followed by a similar study of the Teutons, and of the development of European history up to the Renaissance. The work will be done in a very simple way with concrete, vivid material, and although we believe that children at this age are interested in learning something of the origin of modern methods of government, the social life and industries of the people will be made the basis for understanding political institutions. The effect of the freedom of the artisan in the middle ages upon his work will be illustrated by Gothic architecture, and by textiles and other industrial arts. In October we shall study the Roman Republic.

EIGHTH GRADE: In this grade the children will be better able than in any previous one to hold a problem in mind which they wish to solve, and to work independently toward its solution. We shall lead them to observe the present industrial, social, and political conditions of our own city and country, and then to inquire what has brought about these conditions. They will be encouraged to consult authorities and sources of history and find material which will answer their questions, but will not be expected to work without much help from the teacher. They will visit industrial plants and trace the development of the factory system of labor and its effects upon social life. By the study of any one industry, as the cotton industry, we shall be able to review much of the social and political history of the last century. The consideration of our city government and our present national government will lead to the whole story of the origin of our constitution and our party history. It is believed that with this social basis the children will at the end of the year be better acquainted with the story of our country than they would be by tracing that story from its begin-

ning in chronological order. They will also feel a personal relation to what they study and consider themselves a factor in the movement of affairs toward better things. We have selected for the beginning of this work the relation of Chicago to the country, its present industries and appearance.

High School

The work in History and Literature is continuous throughout the course, and, unlike that of the lower grades, is arranged in chronological order. Beginning with Primitive Culture, Oriental Civilization and Greek History in the first year, it follows the order of historic progress down to our own time. It will be our aim to organize the subject-matter in relation to political economy and sociology. Instead of placing emphasis chiefly on political institutions, other phases of interest, such as industrial life, commerce, and art, are considered equally important. We shall cultivate habits of independent work by encouraging the use of sources of history.

First Year, Ancient History

October—Primitive Culture: The teacher will present conditions which led to the earliest inventions of man to provide himself with food, clothing, and shelter, and the pupils will make inferences in regard to these inventions and their results upon social life. We shall study in this way without text-books the steps through the hunter, shepherd, and agricultural stages of human progress up to civilization. After the pupils have made their own study thus far, they will be asked to read such books as Starr's *Some First Steps in Human Progress* and Mason's *Origins of Invention*. By these they will verify or correct their own conclusions. This will be followed by a study of mythology, for which see *Cult of Greek States*, by Farnell, and *Primitive Culture*, by Tylor.

(To be continued.)

Clay Modeling in the Summer School

Antoinette Hollister

The first clay modeling done by the training class in the summer school was illustrative of the study of prehension in connection with nature study.

The students modeled a squirrel eating a nut, a woodpecker getting its food from the tree, a gopher, a crayfish and a lobster.

Some animal stories were illustrated after a few preliminary studies had been made directly from the animals in Lincoln Park. The frontispiece represents some of these attempts. This effort at illustration not only developed some originality on the part of the students, but brought into play all of the skill gained in the study directly from nature. It probably represents the best that was done by untrained students as a result of six weeks' experience with clay.

The literature placed in the hands of the students for illustration included some fables, Uncle Remus Stories, by Joel Chandler Harris, and selections from Rudyard Kipling.

A very little work in pottery was done, employing methods used by the Indians—that is, without the potter's wheel.

The modeling done by the children was necessarily very crude. They peopled a cave which they had made of stone with

representations in clay of cave men engaged in various occupations. They also recorded observations made on the field trips—a nest of eggs found on the sand dunes—the animals, and other things of interest at the Field Museum. All of the work of the children was done with the idea of conveying in this way some idea of their experiences to the other children at home.

The Course of Study

It is the purpose of "The Course of Study" to present in theory and practice a full exposition of the work of the Chicago Institute in the Academic and Pedagogic schools. This exposition will be continuous, and will consist of outlines of the work done in all grades and departments, prepared by the teachers of the grades and departments. Issued every school month, there will be ten numbers a year, none appearing during the vacation months of August and September.

The COURSE OF STUDY will be at once the curriculum, guide, and text-book of the students in the Pedagogical School, and a means of preparation for all persons who propose to attend the Chicago Institute. It is also intended to meet the needs of those parents who care to know, month by month, the theory and details of the work of their children in the Academic School. Persons who wish to study the new education will find many practical suggestions as to the application of its fundamental principles to daily school-room work.

Philosophy of Education

Francis W. Parker

The text of Volume I, No. 1, of the COURSE OF STUDY will be used as a basis for the study of the philosophy of education and the study of psychology for the month of October. Students are earnestly requested to examine every statement in the light of their own reason, and not to accept or reject a single proposition without thorough investigation and careful thought. Every statement is to be looked upon as a working hypothesis, to be proved true or false. The students will assist the teacher by being perfectly independent and rational in thought; the student who shows conclusively that any proposition is wrong will be of the greatest assistance to the teacher.

The initial work of the department will be an examination of the principles presented in Volume I, No. 1, of the COURSE OF STUDY. In order to help students, questions and subjects for discussion are given.

I. Study "The Plan and Purpose of the Chicago Institute," pp. 9–16.

What are the two diametrically opposed ideals mentioned? Discuss their relative values.

"An ideal determines and controls all methods and means that go into its realization." Is this statement true? If true, give a number of examples.

What has been your highest ideal in education? How have you striven to realize that ideal?

Is it true that comparatively few teachers are engaged in "studying the child and his needs"? What is your experience?

II. What is the cramming process?

What should be the purpose of an examination?

When should pupils be promoted? Who should be the judge?

What is the highest incentive for the study of education?

Is it true that character is the ideal universally recognized?

What is a pure democracy? Is it desirable? Is it possible?

What do you understand by the sentence, "The ideal school is an ideal community"?

III. Study each of the ten statements on page 10.

What is the difference between gaining knowledge with a conception of its immediate practical value and gaining knowledge without that conception?

"The true ideal community life brings all the human energies into full play and righteous exercise." Illustrate.

Is it true that present good is everlasting good? Illustrate.

Discuss: The needs of society should be the guide for education.

What is meant by "the greatest economy of effort"?

IV. What is morality?

All education is moral or immoral. Is this true?

Define educative concentration. Illustrate it.

Define and discuss correlation.

"Correlation is the inevitable outcome of concentration. It is the universal rule in all affairs except in education."

Show by example that all practical businesses and professions, except teaching, are conducted on the plan of correlation.

V. Show, if possible, what art is greater than that of teaching.

Give reasons why education is the science of sciences and the art of arts. Discuss.

How are ideals cultivated in a pupil?

Is it true that the methods commonly used in our schools are under the domination of mediæval ideas?

VI. What place have play and amusement in education?

Define and illustrate educative work.

What are the subjects of study under "Man"?

What are the subjects of study under "Nature"?

What other subjects of study are there, not comprehended under the study of man and nature?

Make a careful examination of what a child knows before he enters school.

What did you know, and what could you do?

VII. What home work is educative?

Explain and discuss: "The different modes of expression have no mental or moral value in themselves."

Discuss the statements under the different headings of "Reading," "Writing," "Mathematics," "Art," etc.

Page 15, "Tests and Results": How may every recitation be an examination?

What relation should the school have to the home?

Syllabus of Lectures upon the Philosophy of Education: Page 16. Explain the three sayings:

"The school is society shaping itself."

"Education is not a preparation for life; it is life."

"Put into the school that which you would have the state."

I. Discuss the statements from one to six, inclusive, beginning on page 16 with (1) "Education should be the evolution of self-government."

What are social duties?

Is it true that citizenship demands the best, and all the best, of a human being?

What are the demands of community life?

What knowledge does a citizen need?

In what sense is a child capable of becoming a citizen?

How does community life appeal to the child?

II. Appeal to Common Sense: Page 17. Discuss, in order, health, helpfulness, trustworthiness, good taste, vocation, and citizenship.

What qualities of character are not here comprehended?

What is the relation of knowledge to character?

Do these qualities present definite aims for effort?

Character consists of habits. How are habits acquired?

III. An Examination of Conditions: Page 17. The three propositions are:

1. That knowledge-getting is the prevailing purpose of education;

2. That knowledge as an ideal and end is utterly wrong; and

3. That the knowledge ideal is the inheritance of past ages, and shows the

binding force of tradition upon prevalent education in the United States.

The question for the most careful study is, are these propositions true? Can sufficient evidence be gathered to prove the truth of these propositions, or are they only partially true or altogether wrong? The students will take each proposition in turn, beginning with the first.

First Proposition: What are the demands of superintendents and school boards in regard to education?

What is the common guide in making a course of study?

What is the use generally made of a course of study?

What are the purposes of examinations?

What ideals do teachers in general strive to cultivate in their pupils?

To what extent is the mere learning and reciting of words the work of the school-room?

Write down all the facts that you can gather either for or against the first proposition.

Second Proposition: What guide is there for the selection of knowledge for a course of study, or for the teaching of pupils?

For what reason would you select a particular subject for a grade?

Is there sufficient proof in the fact that rewards and per cents are used for stimulus to show that children do not love knowledge and that, therefore, the knowledge ideal is a failure?

Do rewards and per cents cultivate selfishness, and is selfishness the root-vice of mankind?

Is it possible to gain a thorough knowledge of any subject through text-books?

What methods do you know of, and what is their purpose?

What is the difference between the studying of methods and the studying of principles of education?

Bring all the proof you can that knowledge as an ideal in education is wrong, or that it is right.

Third Proposition: What proofs can you bring that the knowledge ideal is the outcome of despotic governments, and that it has been and is still used to train the many into subserviency to the few?

This discussion will be continued in the November number under the heading, *Subject or Citizen.*

Psychology

Suggestions for a Course of Lessons in Psychology, p. 28.

I. The study of psychology will be strictly inductive. The initiative step in this study must be a close, thoughtful, examination of one's own consciousness.

Discuss: The purpose of the study of pedagogical psychology is to increase the ability to know the educative value of subjects, and to discover, step by step, the evolution of thought in the minds of pupils.

What is the greatest danger in all study? And is it true that "nothing can be learned primarily from books"? Why?

Is it true that if one dislikes a subject it is a sure indication that he has never really studied it?

II. Consciousness is the ever-present laboratory for the continuous study of mental phenomena. The stream of thought in consciousness is constantly changing: that is, thoughts are continually coming and going.

Past thoughts or images may be recalled.

Explain consciousness (if you do not understand it, ask questions.)

What do you understand by the introspective method?

What are the difficulties in the study of psychology?

Study the following statements:

"I see" means that I am conscious of something.

That something of which I am conscious is in my consciousness.

In every act of the senses there is consciousness.

In any act of the senses of what am I conscious?

Make a number of experiments in this direction.

How do you explain the statement that all questions may be psychological?

III. The students are requested to make many examinations of experiences, with these questions in mind:

What do I recall?

How am I able to recall images?

It is suggested that the students make a thorough study of their early travels, and try to relate reminiscences from their first recollections to the present time.

Is it possible to have a state of consciousness without images?

Experiments in reading may be made very interesting.

Try to recall, or better, try to relate, the substance of any novel you have ever read. Describe a sermon or lecture that you have heard.

Why is it that you cannot understand some lectures?

Work with Your Hands: Is it possible to do any work without first imaging what you propose to do?

State the processes of imaging while you are at work. You will find that you have gained a great many images outside of school, counting from your earliest recollections to the present time. You have also gained images in school work. Where have you gained more images: in the school room or out of it?

Results of Study: Test yourself by your former study of geography. Image all you have learned, for instance, of the United States. Do you hold the image of the map, or of the real country?

Make similar tests in history. How many images have you remaining from your study of the Revolution? Can you begin at Lexington and recall a series of images through to the close of the war?

What images are clearest and best related in all your study?

If you have few images as a result of study, what have you?

The Art of Teaching

The course in the Art of Teaching will be an examination of all the syllabi written by the faculty of the school and contained in the COURSE OF STUDY.

Please make a study of all the departments of the school as given in the syllabi of the July number of the COURSE OF STUDY. Special attention should be given to the Department of Applied Pedagogy (page 73).

History of Education

The work in the History of Education for October will consist of autobiographies of the individual students. The students are requested to prepare for this work by writing out a history of their own education from the beginning. To guide students, a few questions and suggestions are given. Students must not by any means confine themselves to these questions and suggestions, but write out their personal histories as fully as possible.

Describe the first school you attended. What are your impressions in regard to it?

How did you learn to read? to write?

How and when did you begin number?

Describe, as far as possible, the beginning and the course in each subject; for instance, how and when you began geography. What have you now left of the study of the subject?

Describe the teacher who, in your opinion, did you the most good.

Describe the teacher whom you liked the best.

What objects were used in teaching?

To what extent was your reasoning power appealed to?

What words did you learn that you did not understand? Describe how you were taught to write, draw, and paint?

In your opinion, what is the best thing in your education?

Estimate the time you lost, if any, by imperfect teaching.

What stimulated you to study?

What study did you like the best? Why?

What studies did you dislike? Why?

Kindergarten Pedagogy

Bertha Payne

The work of the month will be a study of the earliest stages of mental and bodily life. This will be preceded by a general discussion of the needs of the children under seven years of age in the way of directed employment of their powers. Observation of children in the kindergarten will be a most important preparation for the class discussions.

1. Why should teachers of older children study children in the earlier stages of growth? Froebel was led from the teaching of the older boy back to the playing child, and then back to the infant. Why?

2. What have you seen in the conduct of children under six years which suggested the need of training before that of the primary school?

3. What have you to say to the following statements: "The young child needs first of all bodily freedom and should live the life of a healthy young animal." "It is a mistake to stimulate mental activity or restrict bodily activity." "This over-stimulation and restriction are found in the kindergarten."

Observe children in the kindergarten and out of it with these statements in mind. How may certain common conditions of city life modify these views? Of country life?

Reminiscence: 1. What do you remember of your childhood before the age of seven years? Are these memories connected or broken? Do you remember how you felt toward people and events? When you recall a memory accompanied by strong feeling, what is the character of the related images—clear or blurred? Can you recall the playing of any games? Describe those you liked best. Were they played with one other, with several, or with many? What was the special point or end to be attained? Did you keep to the form as a rule? Observe children under seven years at free play. Record any instances of game-playing that you have seen.

2. Did you "make-believe"? Did you imitate other people? Did you invent situations and carry them out? If so, was there a coherent story or plot? How many usually took part in these plays? Was there a leader, or head? Give subjects of as many of these plays as you can remember. As you look back, can you discover any educative value to yourself or to others in these plays? In observation of the kindergarten games and plays, can you find any points of resemblance to those of your childhood? Of difference? Any greater value? In what motives or impulses were they rooted?

3. Do you remember your first day at school? What was your feeling toward the teacher? Toward the other children? Do you remember your work? How old were you?

4. Can you remember the playthings you liked best? Give list. Describe some plays that you had with them. How did they compare with the playthings of the kindergarten?

5. Relate some events in which you took part with pleasure. What was your feeling toward people and things, and what degree of effect, if any, did these experiences have on your play? On your interest? Have you noted any instances in biography of the persistent trend given to thoughts by environment, or by some single strong experience? See Pierre Loti's *Life of a Child;* autobiographies of Benvenuto Cellini and of Goethe; *Life of Macaulay*, by Trevelyan; Froebel's autobiographical letter in Barnard's *Child Culture Papers*.

Observations: 1. Is the kindergarten training a beginning in education? Where would you place the beginning? Who and what are a baby's teachers? Does the mother educate him with conscious purpose? How do influences from without reach him? How do you know?

2. What would you call the spontaneous activities of a baby? What is instinct? What is impulse? Make a list of baby plays that you have seen. What elements have they in common? Where does the attraction seem to lie in each case? Do they require the coöperation in any sense of another person? What is the motor force? What is the bodily and mental effect? In what sense are they educative? What can we learn from the earliest acts of a baby that

will help us to understand the kindergarten child?

3. What are the first impulses? What are the first things that attract attention? Color. Light. Movement. Sound. Bodily signs of attention. Mental and bodily effects of attention. Periods of activity. Length. Intensity. Effort. Describe the mind and body movement in the following actions: Start at a loud noise, first effort to follow a moving light, to grasp a ball, to sit erect.

What is the spur to repetition? What is the mental and bodily effect of each successful attempt? By what process does a child learn to direct his movements? Can an infant get the class of notions that we express by such words as far, near, high, low, up, down, fast, slow, here, there, large, small, hard, soft, without bodily motion? What part does similarity play, and what contrast?

Describe one of the earliest acts in which you think you can trace the following as parts of one process: Feeling of pleasure or pain, controlled motion, distinct images.

References on Instinct and Impulse: *Mental Development in Early Infancy*, Dewey; see Transactions Illinois Society for Child Study, Vol. IV, No. 3; *Infant Mind*, pp. 135–140, Preyer; Briefer Course, pp. 302–406, James; *Outlines of Psychology*, p. 278, Wundt.

Department of Natural Science

Ira B. Meyers Wilbur S. Jackman Charles W. Carman

The Professional School

It is the aim of the work in this department to afford to students preparing to teach whatever assistance there is to be derived from a study of natural science. Broadly speaking, the work is comprehended under three heads, namely: (1) Psychology — involving a study of the development of the mind under the stimulus of its nature-environment; (2) Pedagogy, involving an investigation of the inter-relations of the so-called subjects of study and a careful development of methods of teaching; (3) History of Education, showing the part that man's interpretation of nature has taken in the development of the race.

All of these studies will be pursued in the light of observations that the students can make for themselves upon nature, and in the various class-rooms of the academic department. Those who desire to prepare themselves for teaching in high or normal schools, or for college work, will be required, in addition to the ordinary qualifications for admission, to extend their studies through to one year's high-grade work in the academic school in the special subject chosen, or to present undoubted evidence of fitness for such training.

The Academic Department.

Courses of study are offered in the secondary school which will fit the students to enter the first-class colleges and technical schools of the country. The contact of the students with nature will remain unbroken, but the work, resting upon the broad basis of the earlier years' observation, will be specialized each year upon some particular lines of investigation. To this end a large amount of laboratory work will be required. The following outlines indicate the nature of the work planned for October.

BIOLOGY: A study of the micro-organisms of stagnant water; a study of the cell as a unit in the living organism, illustrated by a study of the protozoa of ditch and swamp; their relation to the food supply of higher forms of life.

I. Collecting material:

1. Field trip to swamp and lagoon for collecting material.

NOTE. Select materials from (a) decayed plants; (b) living plant; (c) bottom ooze; (d) free water. Keep this material in separate bottles or jars.

II. Microscopic examination of material:

1. Examination of each collection.
2. Identification and drawing of typical cell forms.
3. Life habits—food, movement, increase.
4. Indications of distribution of these forms in the different material.
5. Estimation of number of forms in selected quantity of water.

III. Study of cell structure:

1. Parts recognizable in the several forms examined—their function.
2. Modification of parts.
3. Compare simple cell forms with cells of multicellular forms.

References: *Aquatic Microscopy for Beginners*, Stokes; *Animal Life*, Thompson; *Animal Life*, Jordon; *Biology*, Sedgwick and Wilson.

Museum Course: Insect life with special reference to preparations for winter.

I. Collections:

1. Study of winter homes in general.
2. Study of winter homes as grouped about decayed wood, bark of tree, rubbish pile, etc.

II. Field work; observation and collection of material:

1. Places selected by insect as winter abode.
2. Nature of homes, source of material.
3. Evidence of forethought in selecting location.
4. Changes of insect after going into winter quarters.
5. Protection.

III. Arrangement and mounting of collected material:

1. Point to be illustrated by the mounted specimen.
2. Material needed as aid in showing environment of the insect.

IV. The use of labels, reading references, and pictures as supplements to a collection.

The Primary and Grammar School

Continuous observations will be made upon the various phenomena of nature as presented by the succession of day, month, season and year. The course will include, also, a general survey of the various means by which man makes use of natural forces. Laboratory work and apparatus-making will be employed whenever the pupils may desire such means to be employed in testing or verifying the observations made.

The first month of the school year will be devoted largely, throughout the Department, to preparing apparatus, charts, and other materials needed in making and recording daily observations. The study will be directed specially to the mechanics and physics of the instrument employed, so that observations may be intelligently made. For detail outlines refer to the syllabus of each grade. The work is pursued in accordance with the following principles underlying presentation and expression. It is comprehended under the general term

Nature Study

Nature Study is a self-defining term. It is an expression that stands in its simplest form. The spirit of the work requires that the learners be intelligently directed in a study of their immediate environment in its relation to themselves; that, under the natural stimulus of a desire to know, there be a constant effort to rationally interpret the inter-relations of the common things that may be observed.

The work in Nature Study in the Chicago Institute in all grades will be conducted in accordance with the following general plan:

A. Careful observation of those phenomena of nature which present themselves in the surroundings of the pupils in the course of the year.

B. The use of all those subjects of study, including the laboratory as a means, which are necessary to the symmetrical development of a body of knowledge from the observations made.

The study of nature ultimately resolves itself into a study of energy. The great aspects under which energy may be observed—color, form, and force—are presented to the children through an inquiry into their functions.

As to methods of study and presentation the attention of teachers is directed to the following suggestions:

I. Begin the study with a comprehensive survey of the landscape as a whole.

1. Treat the landscape as an organism, not as a composite of confused facts.

(a) Note its strength: illustrated by the tenacity with which plants and animals hold their respective places.

(b) Note its delicacy of balance: illustrated by the influence of any change, however small, in causing a readjustment of the different parts.

II. Proceed from the landscape to its details; the study should be directed to its related parts, not merely to unrelated fragments. From the whole to the parts in this instance does not mean from the whole to the pieces.

1. Note the underlying unifying influence in the section of the landscape studied. For example, it may be the work of a river or creek; a lake or woodland.

2. Note the smaller units within the larger; for example, different slopes, a marsh or a piece of bottomland.

3. Observe the relation of the smaller units to the whole.

III. The landscape as a composite whole presents several series of aspects, each of which includes a well-defined succession of events.

1. The daily: transitory and irregular. For example, those caused by the movement of clouds, etc.

2. The seasonal: those dependent upon the temperature changes and other climatic influences.

3. The epochal: those requiring great lapses of time; for exam; le, the drainage of a marsh; the shifting of a stream-bed, etc.

IV. The study of landscape details therefore means the following of each minor unity, through each of these series of aspects as the changes occur, with due regard to the relations of the various aspects to each other.

1. Illustrated by the study of a tree.

(a) Daily aspects: play of light and shade due to clouds, sunshine and wind.

(b) Seasonal aspects: those corresponding with the month and season.

(c) Epochal: those presenting themselves in the trees' growth, maturity, decline, and dissolution.

The landscape as a whole or any part of it presents similar changes in the same order.

V. The different series of aspects presented by the landscape appeal to the pupils in accordance with a definite order.

1. The fleeting aspects appeal earliest, through the esthetic sense.

2. The regularly recurring seasonal aspects in their relation to man rouse strongly the notions of utility. Observe the multitude of inventions and devices by which man seeks to adapt himself to the seasonal changes.

3. The significance of the great epochal changes appeal most strongly to the mature mind; it can be grasped only as the mind acquires power to arrange according to the rules of philosophy what has been gathered by the senses.

VI. Use the laboratories, collections, and special apparatus as means of answering questions which nature asks the pupils.

The laboratories, aquariums, alcoholic and dry specimens and apparatus enable the pupils to study phenomena in isolation or under special conditions for the purpose of determining the natural relations.

In Nature Study it is indispensable that adequate and intelligible records, corresponding to the modes of observation, should be carefully made and preserved. Such records may be grouped as follows:

I. Color. Records made in water-colors and colored crayon.

1. Pictorial history of the year in color. Below the fifth grade, a series of paintings showing the various aspects presented by the landscape. (See V, above.)

2. Above the fourth grade, daily paintings

of the landscape mounted in calendar form, month by month. Taken together these show the color aspects of the day, the month, the season and the year.

3. The disks are to be of colored paper, about two inches in diameter, each of which will suggest, somewhat arbitrarily, certain conditions of the weather. The following colors, named according to the *Bradley Educational Colored Paper*, are used: (a) Clear days, yellow; (b) fair days (three-tenths clear), orange yellow; (c) cloudy days, cool, gray, No. 1; (d) rainy days (.01 inch, or more), cool, gray, No. 2. First frost in autumn and last in spring, small white disk in the center of the large one; (f) snow, white. By properly dividing each disk into two parts the relative length of day and night may be shown—two different colors being used. An arrow drawn across the face of the disk will indicate the direction of the wind. The disks are pasted, day by day, upon a large cardboard in calendar form, and, thus arranged, they show in a very instructive way the distribution of sunshine, clouds, rainy days, etc., during the months, the seasons, and the year. The value of the record is much enhanced when it is kept in connection with the landscape painting mentioned above. The disk charts represent the cause, the landscapes the effects.

II. Form. Records made by modeling in clay, and by drawings in charcoal, crayon, and pencil. Also by means of brush and colors.

1. Form in an organism or an object represents a concession to the influence of environment.

2. Form in maintaining itself represents a balance of forces and furnishes a means for measuring them.

3. Form-study is therefore mathematical; arithmetic investigates magnitude, geometry proportion, and algebra the balance of the parts.

4. Accessories needed: English and French units of measure of magnitude—rules, dry and liquid measures, scales and balances.

III. Force. Records generally assume the form of tabulated mathematical data. They may also be graphically represented by means of curves upon appropriately drawn charts.

1. As form is imaged only through a mathematical calculation and statement of magnitude, so force is imaged only through a mathematical calculation and statement of quantity.

2. Force is imaged only in mathematical terms, as pull or push, in pounds, grams, etc.

3. Accessories: scales, weights, spring balance, etc. All apparatus made is but a means of utilizing force for one purpose or another.

IV. Time. Written records showing the duration and succession of natural phenomena. Also supplemented by means of graphic representation in chart form.

1. Meteorological record: showing various phenomena of the weather and the character of the season.

2. Graphic representation of distribution of sunshine, clouds, and rain, by means of colored disks of paper mounted in calendar form on cardboard.

V. Inferences, personal reflections, etc.: Written records. Written language furnishes the best means of making a record in a logical form.

1. Written records embody primarily what the mind works out through reflection.

2. The materials forming the basis of reflection are gathered through observation and supplemented by reading.

3. The records must be preserved and placed to the credit of the pupils.

VI. Reading and literature: A means of access to the experiences and feelings of other people and other times. Observation demands reading; the wider the observation, the greater the demand.

The introduction to reading is through the oral narration. The ability of the child soon outruns his dependence upon the oral narrative and the only substitute is the printed page. Reading, therefore, from the earliest moment should supply the real demand; *i.e.*, the pupil's desire to know concerning those experiences and feelings of others that are kindred to his own. Reading should never be a question of words, never a matter of vocabulary; but always a question of sense, always a matter of intelligence.

Pedagogic Course in Physics

First Year

Meteorology: (a) The province of meteorology. (b) Brief sketch of the growth of the study. (c) The modern contrasted with the early study of the subject. (4) Meteorological phenomena. (e) Meteorological instruments. (f) Construction and use of meteorological instruments. (g) Meteorological observations. (h) Barometer, barograph, thermometers, thermograph, anemometer, anemograph, hygrometer, rain-gauge. (i) History and growth of the signal service. (j) How to make weather maps. (k) How to read weather maps. (l) How to forecast the weather. (m) The study applied to animal and plant life. (n) The value of the study to commerce.

Pedagogic Course in Chemistry

FIRST YEAR

The Chemistry of Decay: Laboratory work upon material gathered from the field. (a) A determination of the composition of leaves, fruits, and grasses. (b) The changes that take place in decay.

High School Course in Physics

THIRD YEAR

Sound, Heat, and Light: (a) Kinds of vibrations. (b) Media of propagation. (c) Sound waves, heat waves, and light waves. (d) Interference, reflection, and refraction of waves.

High School Course in Physics

FOURTH YEAR

Magnetism: (a) Magnets. (b) The earth's magnetism. (c) Magnetic units.

Geography

Zonia Baber Wallace W. Atwood

Pedagogic School

The year's work will be the study of the Chicago field from the geographical and commercial aspects; also a similar consideration of the wider field of the continents of North America, South America, and Eurasia.

I. Value of Chicago and its environs as a basis of geographical study.

1. Genesis of forms of land and water.

2. Working forces: (a) Wind. (b) Waves. (c) Rain. (d) Streams. (e) Weathering agents.

3. Man's adjustment to this region: (a) Farming; gardening. (b) Quarrying; mining. (c) Cities; industries. (d) Commerce.

Which aspect appeals most directly to each grade of pupils?

II. Special study of stream work as shown in the small streams in the region of Glencoe and the Desplaines River.

1. Measure work of a stream done in a certain time: (a) Means of accomplishing the result: wearing power, carrying, and deposition.

2. Registration of stream work on the face of the earth in valleys of various shapes. (a) Relation of the shape of a valley to its erosive history.

3. Bed of stream. (a) Falls, rapids, and other incidents.

4. Effect of stream deposition at debouchure.

2. Use of rivers to man, to animals, to vegetation, to earth. Make valley forms, deltas, etc., in out-of-door laboratory.

NOTE.—Apparatus consists of small pond of water and hose of different sizes for conducting the water into streams.

III. Value of laboratory in teaching geographical subjects to pupils.

References: *Geography of Chicago and Its Environs*, Salisbury and Alden; *Physical Geography*, Davis; *Physical Geography*, Tarr.

First Year, High School

Physiography of the Land:

During the month as many field trips will be taken as is practicable, and the classroom and laboratory work will be based upon the observations made in the field.

I. Weathering, or soil-making.

1. Soils and subsoils: (a) Color. (b) Thickness. (c) Constitution. (d) Distribution.

2. Relation of loose, mantling material to underlying rock of region. (a) Did the mantle

material come from the underlying rock? (b) If so, how was it formed? If not, where did it come from? and how was it brought? (c) Residual and transported soils.

3. Agents of weathering and how each one acts. (a) Mechanical. (b) Chemical.

4. Rate of weathering.

5. Different kinds of soils and their influence on native vegetation and on agriculture.

II. Valley Development.

1. Origin and growth of gullies. (a) Why are there gullies on the surface of the earth? (b) How do they grow? In length, in depth, in width? (c) Forms of young valleys.

2. Getting a permanent stream.

3. Work of the stream. (a) Erosion. (b) Transportation. (c) Deposition.

References: *Physical Geography*, Davis; *Realm of Nature*, Mill; *Elementary Lessons in Physical Geography*, Giekie; *Physical Geography of New Jersey*, Salisbury; *Physical Geography of Devil's Lake*, Salisbury and Atwood.

Second Year, High School

Meteorology: I. Observational work in field and laboratory as to

(a) Changes in temperature of the air. (b) Changes in pressure of the air. (c) Constitution of the air. (d) Nature and use of each constituent. (e) Clouds. (f) Winds. (g) Storms.

II. Amount and distribution of the atmosphere.

III. Warming and cooling of the atmosphere.

IV. Changes in pressure. (a) In the great wind and calm belts. (b) In the storm centers.

References: *Elementary Meteorology*, Davis; *Meteorology*, Waldo. Weather Maps.

Third Year, High School

Historical Geology: I. Study of Stony Island and quarries about the city:

1. Kind of rock formation seen. (a) Its material. (b) Its structure.

2. Develop the idea of the formation of the limestone.

3. Develop the idea of changes in elevation of the land surfaces.

II. What other formations may have been made similarly to the limestone at Stony Island? (Sedimentary rocks.)

III. What were the sources of material for the first sedimentary formations? (Igneous rocks.)

IV. The processes which have always been at work bringing about geologic changes:

1. Destructive processes: (a) Associated with the atmosphere. (b) Running water. (c) Ice work. (d) Wave work.

2. Reconstructive processes. (a) Associated with swamp and river deposits. (b) Lake and ice deposits. (c) Marine and estuarine deposits. (d) Volcanic.

References: *Introduction to Geology*, Scott; *Text-Book on Geology*, Geikie.

Fourth Year, High School

Anthropogeography: The intimate relation of man to his geographical environment is a consideration of greatest importance in the development of the race. Man's ability to extend his environment by rapid communication until the world has become almost his immediate neighborhood characterizes the present civilization. An intimate and generous appreciation of all the peoples of the world is a basis for the realization of the brotherhood of man. The work in anthropogeography will be a general consideration of all the nations and peoples of the world, together with their geographical association.

I. Man's relations to his surroundings.

In what manner has man responded to the geographical environment in this region? How has he changed conditions to minister to his needs? What aspects seem most stubborn in responding to man's control?

II. Building of Chicago.

What elements have contributed to the building of this city? Of what nationalities is it composed? Account for the presence of the different peoples. Influence of the father country upon the character and habits of the adopted people. Visit regions occupied by special nationalities, as Italians, Greeks, Norwegians, Chinese, etc.

III. Industries of this region.

Why do certain industries obtain in this region?

IV. General forms of land and water, topography, and vegetation on the character and development of people.

1. Influence of continents, islands, seas, lakes, rivers, mountains, and plains on associated peoples. Give examples of each.

2. Special study of the great river valleys which have aided in developing primitive historical people. (a) Nile, Tigro-Euphrates, Indus, Hoangho. What conditions in each specially favored the growth of its respective people? What great geological changes have occurred? Are conditions favorable to primitive development equally potential in advanced civilization?

References: *Man and His Work*, Herbertson; *Earth and Its Inhabitants*, Reclus; *Compendiums*, Stanford.

Mathematics in the High and Pedagogic Schools

George W. Myers

More than a dozen years' class-room experience with mathematical students convinces the writer that the most serious criticism against current methods of teaching elementary mathematics is their utter failure to develop the mathematical sense, to give the student a degree of power to recognize the quantitative aspects of his environment in any way commensurate with the time and thought put upon these subjects. Teachers everywhere, recognizing that serious defects exist in current mathematical pedagogy, seem to be focusing their attention almost entirely upon the attempt to make the meaning of the mathematical processes clearer. In the writer's opinion this is not the main, or even a very serious difficulty. Nor does it appear to him that the lack of analytic power is so serious a matter as some would make it out. The crying need of the mathematical student of our time is the ability to recognize the place and necessity for the use of the numbering function in grappling with his environment. A very limited range of mathematical knowledge, with the power to use it practically, is worth far more to both the student and the world than an unlimited facility in the manipulation of processes without the ability to apply his skill to the concrete world. The ideal mathematician is he who, possessing enough mechanical skill to perform the arithmetical operations with ease, and enough analytic power to enable him to pass readily from the whole to its related parts, perceives with equal ease the abstract in the concrete, and the concrete in the abstract.

Algebra in the High School

1. Numbers represented by letters.

The representation of generalized number by letters should be taught before the high school. If this has not been done, use the relations between the sides and perimeters, areas, etc., of squares, oblongs, right, equilateral, and isosceles triangles. Draw these figures, cut off their angles, apply them to each other and note whether or not the angles are equal. Designate the angles by letters and represent their sums and differences symbolically.

Illustrative examples:

If a certain line be called x, what shall we call twice that line? Five times the line? a times the line? z times the line?

If a man is three times as old as his son and the son is b years old, how old is the man?

2. The use of the symbols $+$, $-$, $\times$ and $\div$ in algebra.

a. They have the same uses as in arithmetic.

b. Their extended uses in algebra.

c. Other ways of representing $\times$ and $\div$.

3. The use of the signs + and — to denote quality in number.

Positive and negative numbers defined.

Illustrated by readings of the thermometer, barometer, graduated circles, latitude, longitude, altitude, azimuth, heat, assets, etc.

The opposition of character implied in all these illustrations, and in all others, may be represented to the eye by selecting a certain point in a horizontal line as an origin, or starting point, and laying off to the right or left, according as the number to be represented is positive or negative, as many linear units as there are units in this number. This gives us a negative series of numbers equal in extent to the ordinary positive series of arithmetic, thereby extending the range of number to double its former compass.

In many algebraic problems two separate and distinct magnitudes must be simultaneously considered and must be kept distinct throughout the discussions. A simple method of doing this is to draw a vertical line through the origin specified above, and to lay off along this vertical, upward or downward, from this origin according as the second magnitude is positive, or negative, as many linear units as there are units in the second magnitude. We then have a simple means of keeping the two different numbers represented separate.

These two numbers are generally denoted by x and y. The former is usually measured off along the horizontal, and the latter along the vertical line. Following this convention, we may call the horizontal line the *x-line*, or the *x-axis*; and the vertical, the *y-line*, or the *y-axis*.

4. The equation taught and illustrated.

The meaning of the sign (=) may be taught concretely by the use of the balances in weighing. It should be taught long before the high school in connection with early work in arithmetic. Its value as a tool for the solution of practical problems may and should be shown quite early in the mathematical course.

As early as the grammar school it should be shown experimentally that the sum of all the angles which can be drawn about a point in a plane is 360°, and that the sum of the angles of any triangle is 180°. Elementary astronomical work will show the need of such subdivision.

Draw an equilateral triangle, cut off the corners (angles) and apply them to each other. Denote the magnitude of one of the angles by x. What will denote the sum of all three? This sum being also 180°, we may write,

$$3x = 180°.$$

What then is the value in degrees of one of the angles of the equilateral triangle?

Draw an isosceles right triangle and denote one side by x and the hypotenuse by y. What is the perimeter? The area? Measure the sides and express the perimeter in inches. Write an equation between your two numbers representing the perimeter. What is the area of the triangle? If the triangle has been drawn on cross-ruled paper, count the number of square inches or square tenths of inches. Write an equation between your two values for the area. Can you find the value of y?

This latter problem shows how two unknown numbers may enter a problem; for suppose it were required to find the sides of such a triangle whose perimeter is to be 13 inches and whose area must be 8. The equations would then be:

$$2x + y = 13, \text{ and } \frac{x^2}{2} = 8, \text{ or } x^2 = 16.$$

5. The equation represented graphically.

In plotting the values of x and y it is not necessary to lay them off on the respective axes. It is obvious that y-values may be laid off parallel to the y-axis from the *x-axis*.

One of the fundamental laws of motion is symbolized by $f=mx$, f, force, m, mass, and x, acceleration.

For uniform motion we have $S=Vt$, where S denotes the space described, V the velocity, and t, the time.

In the theory of stresses and strains we have $P=AS$ and $e=ls$. Explain symbols.

For the pressure in pipes and cylinders we have $P=pld$. Explain meaning of symbols.

These formulas are typical of the fundamental relations of mechanics of materials and they will be derived and studied for their use in the study of woods, irons, etc.

Let it be noted that they are all (under certain conditions) of the form $y=kx$. Let us study this equation, first in a simpler form; viz.: $y=x$. Plot it.

We shall then study $y=2x$, $y=5x$ and $y=kx$.

Now apply what has been learned to the foregoing practical equations.

Many more general equations will then be plotted and studied graphically, until such equations are understood algebraically and interpreted mechanically and geometrically.

6. The effect of the + and — signs as symbols of operation when followed by the same signs as symbols of quality interpreted graphically.

Pedagogic School

EIGHTH GRADE, MATHEMATICS. In general the work in mathematics of the seventh and eighth grades should be substantially the same in kind and should undertake to secure two different, though related, ideals in education:

I. A connected and comprehensive view of the fundamental facts of arithmetic together with some degree of facility in generalizing from these facts to principles. Such work as this should be begun earlier than here, but it should receive much greater emphasis here than at any earlier stage. The need of a reasonable insistence upon accuracy begins to be felt by the pupil of these grades.

II. Some insight into the subject-matter and methods of the higher mathematics together with a degree of ability on the pupil's part to form a comparative estimate of the merits of the methods of geometry, algebra and trigonometry and those of arithmetic. Pupils may thus be led to see that these higher branches of mathematics should be studied because they furnish easier and more direct means of waging "the conquest of nature" in time and space than does arithmetic. This gives the young pupil an objective, rather than a subjective, reason for the study of these advanced subjects and reasons of the former sort appeal to him much more strongly at this stage of study than do those of the latter sort, such as mental discipline, educative value, etc.

Percentage, Interest, etc., may well be given attention here, though they should be introduced and taught in closest connection with fractions at an earlier stage. The main reason for taking them up here again is that they furnish so many excellent opportunities for generalizing to the broader principles of algebra. In all the work of these grades the pupil should be taught to study the conditions of his problem and to decide what is the simplest course to pursue, for the simplest is always the best—to think his problem out—before he sets about the mechanical work of executing the solution.

SUBJECT-MATTER. The first of these ideals is best realized through the facts of science, geography, sociology, manual training and physical training which teachers and pupils have been gathering and are still gathering at this time.

The work in science will consist of discussions of data furnished by the rain-gauge, the thermometer, barometer, hygrometer, the skiameter and other appliances, most of which will be made by the pupils. The discussions will lay a reasonable stress on accuracy and rapidity of

calculation and will insist everywhere on intelligent interpretation of results.

In geography, such questions should be studied as the fall of rivers, lengths of rivers, extent of river basins, areas of continents and countries, lengths of coast lines, carrying power of rivers and winds, percentage of water soaking into the soil after rains, influences of the tides, tides in rivers, rate of motion of free and forced waves in ocean, heat absorbed by atmosphere, variations of heat due to changing obliquity of rays, dependence of obliquity of rays upon the latitude, cause of seasons, the reason why the time of highest temperature is not coincident with the time of greatest obliquity of solar rays. Seasons on other planets.

In the study of the community life of man, or sociology, the arts and industries, the food supply of the race, the agencies of commerce, transportation, navigation, and general distribution of the products of labor will open up a vast field for mathematical work.

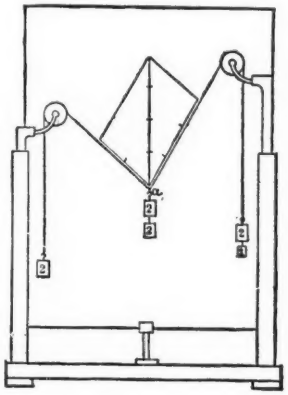
In the manual training department all apparatus will be made in accordance with definite specifications, which must be discussed with reference to the purpose in view by the class and decided upon before beginning. Here it will be clearly seen that mathematical accuracy can never be realized in practice, and that absolute, uncompromising accuracy is important only to the abstract logician. To the individual who expects to use his mathematics it is necessary only that he work safely within practically attainable limits. It needs to be borne in mind that it is sometimes as unmathematical to insist on absolute accuracy as it is to ignore accuracy entirely, unless mathematics be identified with logic.

The measures taken in physical training will be largely used as bases of practical deductions as to the care of the body, the proper kind and amount of training and exercise for each individual and as to the true meaning of proportion and symmetry in regard to the human form.

The second aim suggested above will be worked out through a study of the forces which are continually operative in the environment of the pupil and which he has already begun to feel a desire to understand more fully.

A. Forces acting on a free point.

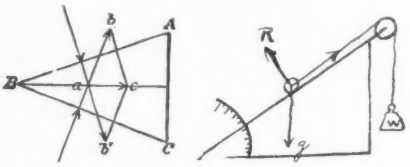
By the aid of an apparatus such as is represented in the accompanying cut, which may be



made in the manual training shop, the principle known as the parallelogram of forces may be worked out experimentally. A smooth ring, or small pulley at a, will be held at rest, or in equilibrium, when the weights are such that the one at a is represented by the diagonal of a parallelogram of which the lengths of the sides represent the side weights. When a is at rest lines may be drawn along the cords on a sheet of paper pinned on the board just behind the weights. On these lines lay off lengths to represent the side forces, or weights, and complete the parallelogram. Does the measured length of the diagonal of this parallelogram represent the weight at a? Repeat the experiment with different weights at the sides, varying the weight at a so as to produce equilibrium. A horizontal board or a table with pulleys at the edges may be used instead of the appa-

ratus here suggested. Extend principle to "polygon of forces."

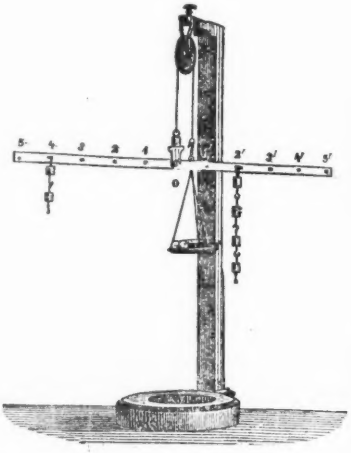
Show how this principle applies to each of the simple machines—inclined plane, wedge,



etc. Devise an apparatus for applying weight parallel to base.

B. Forces acting on a free body.

With apparatus like the one here suggested study the action of parallel forces on a body. This brings up the question of moments and the apparatus furnishes a means of studying it experimentally. How is the light thus obtained of value in studying the stability of trees and structures against being overturned by the wind and other forces? This leads to a necessity of studying the center of gravity, which will be taken up next month. Considerable field



work in elementary geometry should be done in this grade.

Home Economics

Alice Peloubet Norton

The study of the home and its management finds its justification as part of the school work in the importance of the home as a social factor, in the influence of the home upon character, and in the fact that nearly all the sciences find direct application in home life. The subject in its broadest interpretation embraces the study of the home itself, its evolution, its function, and its relation to other social institutions; the discussion of the problems of the family, including the training of children; the consideration of the house, its relation to the home, its architecture and decoration, and the sanitary conditions which affect the welfare of its inmates. It deals with the whole great food problem from the standpoint of economics, the production of human energy, and the "labor power of nations." The composition, source, and nutritive value of food materials, their chemical analysis, the detection of adulterations, and the calculation of dietaries belong to the subject as legitimately as do the cooking and serving of food.

Clothing in its historical, hygienic, and æsthetic aspects, household expenditure, and the division of the income all find a place in this science of the home.

The purpose of the work offered in this department is twofold. It aims, first, to show to the student the importance of the home and its work, and to arouse interest by giving familiarity with its common processes and their underlying prin-

ciples; second, to show the value of the work for children, because of the opportunities for self-expression, and for training in community life.

The work is closely interwoven with that of other departments. The development of the home and its arts belongs to history, while geology, chemistry, physics, and bacteriology are the fundamental sciences upon which sanitation is based. Geography and nature study show us the distribution and structure of the food plants. The course in art includes the decoration of the house and the study of the textile fabrics.

The first year's work will deal especially with the first of the three main groups — food, clothing, and shelter. The outline for October is as follows:

PEDAGOGIC SCHOOL: I. Separation of different food principles from fruits and grains.

Water from fruit; mineral matter from grains; gluten from wheat; starch from wheat; sugar from fruit; fat from corn.

Substances isolated, to be dried when possible, and kept for future examination.

II. Classification of foods.

Uses of food. Measure of heat and energy — caloric. Meaning of nutritive ratio; nutrient ratio; food value; balanced ration.

III. Water.

(1) Source. (2) Uses in body. (3) Cookery: (a) Effect of heat. Determination of boiling point, with thermometer. Observation of physical changes. Effect on boiling point of substances in solution. (b) Effect of cold. Freezing point. Effect of substances in solution. Water, ices. (c) Use as solvent, illustrated by making of tea and coffee. (d) Use in furnishing moisture. Stewing of dried fruits. (e) Use as a means of conveying heat to food materials.

References: *Food*, by Church, Chapman & Hall. *Practical Sanitary and Economic Cooking*, Mary Hinman Abel, Lomb Prize Essay; *Chemistry of Cookery*, Chap. I, Matthieu Williams, Appleton & Co.; *Dietetic Value of Bread*, Goodfellow, pp. 1–30, McMillan & Co.; *Food and Its Functions*, Knight, pp. 1–24, Blackie and Son; *Food in Health and Disease*, Yeo, pp. 1–11. Lea Bros.

HIGH SCHOOL: I. Quantitative determination of water in fruits, and comparison of amounts in different varieties.

II. Study of water as in above outline.

For the work in the grades, see outlines under each grade.

Cooking in the Primary Grades No. 1

Flora J. Cooke

The work outlined below indicates one phase of the social organization of the school. It is in no sense an isolated or special work. It depends not only upon the child's daily observation and experiences in the home, but his social responsibility in this work demands the constant use of the data gathered from his experiments in geography, history, and nature study.

Twice during the month each class of primary children will prepare and serve one kind of fruit, during the lunch period, to some other class in the school.

Before deciding which fruit is best adapted for this purpose, they will experiment, each child stewing or baking a favorite fruit. When the class has compared and tested the results they will decide upon the best product, as the baked apple or apple sauce, and all will prepare and serve this fruit to their guests during the lunch period the following day.

INCIDENTAL WORK: Reading, writing, and number will be an essential part of almost every lesson.

The children will make an account and recipe book. They will estimate the amount and cost of all the materials used. From practical necessity they will learn to weigh and measure accurately. They will constantly study temperature and the effect of increase or decrease of heat in bak-

ing or stewing fruits. They will keep careful records of individual experiments in order to discover reasons for their success or failure in result.

They will make work aprons, sleeve covers, holders and towels for their work. They will originate their own rules for working, for cleanliness, care of materials, and the manner of serving their guests.

Cooking is usually placed in the school curriculum in the seventh and eighth grades, where it is purely a girl's study. It is therefore thought best to explain its introduction as a study for both boys and girls into the lowest primary grades in the Chicago Institute.

The reasons are as follows:

1. The work, under the motive given, must immediately influence the ideals and habits of life of the children.

2. It appeals to a fundamental and universal interest of children, and therefore arouses their best efforts.

3. It requires balanced activity of mind and body, and therefore is free from the danger of mental overstrain.

4. The personal, sensuous delight or satisfaction of the child in the food is tempered by his consideration of the comfort of his guests and the natural sharing of his pleasure with them.

5. Finally, the work was placed here because both boys and girls should come to understand, in a natural way, the significance of the simple food principles and values which so strongly influence their lives and physical development.

Art

John Duncan

The work of the Art Department will grow out of, and illustrate, the work of the other departments. It is intended at the same time that the products be utilized as far as possible for the decoration and furnishing of schools, and that objects be made for the use of others, e. g., picture books for the grades.

First Year, High School

Science: Study of proportion and structure of human figure and face. Comparison of human with other animal forms. Autumn landscape.

History: Study of primitive ornament. Invention and application of similar patterns. Illustration of primitive occupations: hunting, fishing, shepherding, agriculture. (No excessive demand will be made for exactness of archæological detail.)

Study of Assyrian and Egyptian Art. An effort will be made to penetrate to the meaning of the art of these peoples, and to re-embody the mythology in original designs.

Geography: Rapid sketches bringing out especial points (notes in form and color) will be made upon the field, and larger, more synthetic drawings expressive of the accumulated experience of the student will be executed afterward in the studio.

Second Year

Science: Autumn landscape. Harvesting of fruit and grain.

History: Study of Roman architecture and ornament. Illustration of scenes from Roman history.

Geography: Study of cloud forms.

Third Year

Science: Autumn landscape. Vegetable and animal life will be painted with a view to the building up a broad conception of the season in the mind of the student.

History: Study of Christian art, Gothic architecture, sculpture, illumination, and the applied arts. Original drawings, paintings, and models

of persons and scenes from the Bible story, inspired by Gothic art.

Geography: Study of rock formations.

Fourth Year

Science: Pictures of autumn—landscape and figures.

History: Study of modern art movements. Illustration of the history of the times.

Geography: Representations of racial types in their relation to geographical conditions.

Pedagogic School

The students will go over the ground covered by the grades during this month, doing the work more thoroughly and carrying it further. (See syllabus of grades.)

Speech, Oral Reading, and Dramatic Art

Martha Fleming

The value of knowledge upon any subject is measured by the quality and expansiveness of the emotion aroused. Emotion determines action, and is therefore fundamental in character. In the progress of study there comes a time when the emotion of the individual demands expression, and this spontaneous striving for utterance will invariably take rhythmic form of some kind; it may be in movements of the body, as in children's plays, in the dance, or in pantomime, or it may be in music or in poetry. Each mode of expression has its own particular reactive function: color is realized by painting, form by the plastic arts, complete synthesis by writing. Dramatic art focuses the experiences gained in all the other arts, and combines them into one supreme act. This act necessitates the rapid gathering together of all the experiences and the holding of them in form for a comparatively short period of time. The product is evanescent, and the action therefore correspondingly intense. The picture, the statue, the poem persists, while the product of dramatic art has no enduring quality except as it reacts to develop human character.

It is a mode of expression common in its broader forms to primitive man and to the primitive individual, and in its more complex subtle forms to the most highly organized and fully developed peoples. The child puts himself into certain outside conditions for the purpose of getting certain inside experiences. The dramatic impulse leads him to study the wind, the trees, the life about him, and all the shifting phenomena of nature, by putting himself in their places. He loves to act out in his own person his thoughts about them.

The children themselves demand this mode of expression, and they will be encouraged to study nature, history, and language by personations, pantomimes, and plays; and lest these lose spontaneity and become reduced to set fixed forms, the greatest liberty will be given. The teacher will be helper and director. Use will also be made of dances, costuming, song, speech, oratory, and poetry. Literature is to-day the broadest manifestation of the dramatic instinct, and its expression offers the most complete outlet for roused emotion. It performs the same offices, answers the same needs, that the dance did for the primitive peoples.

The poem *How the Leaves Came Down*, which is presented to the First Grade this month, is chosen with reference to its pos-

sibilities of dramatic presentation. The children have been observing the changing autumn leaves. This little poem brings all their observations and impressions together in artistic form. It appeals to the sense of rhythm, to the love of beauty, and to the imagination. It is full of action, which resembles that in the child's own home life. The father, the children, the reluctance about going to bed, the permission to stay a little longer, the last wild frolic, the final going, the white bed-clothes, the sweet good night, and the dreaminess of coming sleep are things the child can understand, because they are a part of his own life. He enters into the life of the leaves by becoming one of them; all his images are cleared up and made vivid. Lessons of love and obedience are unconsciously inculcated. The poetical form is a musical setting, which he learns without conscious effort. At the same time he is gaining skill in the use of his voice, speech, and body, and incorporating beautiful forms of language into his own vocabulary.

This illustrates the thought of the work that will be carried through the different grades. It will vary with the different stages of development. By means of the dramatic instinct the student will come close to the lives of other nations and of other times than his own. In the higher grades the original plays will be better organized, and debates, orations, and the study of great literature intimately related to the subject-matter of study will be part of the month's work. Training in the hearing and production of articulated sounds will be given daily in the lower grades by means of plays and games. The morning and special day exercises of the school will afford ample opportunity for practice in extemporaneous and prepared public speaking.

How the Leaves Came Down

Susan Coolidge

I'll tell you how the leaves came down:
The Great Tree to his children said:
"You're getting sleepy, Yellow and Brown,
Yes, very sleepy, Little Red,
It's quite time you went to bed."

"Oh," begged each silly, pouting leaf,
"Let us a little longer stay;
Dear Father Tree, behold our grief!
'Tis such a very pleasant day,
We do not want to go away."

So just for one more merry day
To the Great Tree the leaflets clung,
Frolicked and danced and had their way,
Upon the autumn breezes swung,
Whispering all their sports among:

"Perhaps the Great Tree will forget,
And let us stay until the spring,
If we all beg and coax and fret."
But the Great Tree did no such thing.
He smiled to hear their whispering.

"Come, children, all to bed," he cried;
And ere the leaves could urge their prayer,
He shook his head, and far and wide,
Fluttering and rustling everywhere,
Down sped the leaflets through the air.

I saw them; on the ground they lay,
Golden and red, a huddled swarm,
Waiting till one from far away,
White bed-clothes heaped upon her arm,
Should come to wrap them safe and warm.

The great bare tree looked down and smiled.
"Good night, dear little leaves," he said,
And from below each sleepy child
Replied, "Good night," and murmured,
"It is so nice to go to bed."

Music

Helen Goodrich

All grades will be chiefly occupied with song-study connected with the subjects of attention in the departments of music, literature, history, and geography, and with the season. In the course of these studies, the time comes when there arises in the child the feeling of beauty—the outcome of a perception of related truth; and this feeling must have expression, or the mind loses a great opportunity for clarification. The intention is to supply the means for this expression in rote-songs. The necessity of broadening the child's musical experience is the second and equally important consideration.

A question must arise at this point as to how far the imitative singing of artistic, i. e., rote-songs, can be valuable as a means of spontaneous expression, at least until the child's technique is easily equal to overcoming the difficulties involved, and the song can be learned quickly. There is evident need of encouraging invention, partly on account of the danger of foisting upon the child a form of expression not fitted to his needs, and partly because no means of self-expression can be safely neglected. The encouragement, and as far as possible the conditions, needful for a development of the inventive faculty will be supplied throughout the school. No definite plans can as yet be formulated, but it may be said that there will be at first no hour set apart for composition; that the shop, the playground, the gymnasium, the field excursions, will afford opportunity for observations of rhythm, the most obvious element of music; and that the inflections of the human voice will furnish one means of approaching the idea of melody. Little songs will be introduced informally into the shop at certain times, and there will be an effort to secure free, if not sustained, attempts at making tunes to fit the moment, either with words or without. All definite musical ideas will be preserved, the crudest receiving its proper recognition, but these will not be dwelt upon further than to record them. They will not be allowed to obscure the growing ideal of beautiful form in the children's minds, nor take the place of the artistic songs in class-singing.

The copying of these tunes from the board will constitute one of the early means of learning staff-notation, and sight-reading, the motive of preserving their own productions and those of other children forming the most natural incentive for the effort. In the upper grades, where very little original work is expected, drill in the writing of music from dictation will be given, always through melody. As far as possible, folk-songs will be used, as supplying the chief deficiency in modern songs—simplicity and directness.

Exercises and studies for securing a more definite comprehension of scale relations and intervals, and of rhythm, will be given in all grades. (See Modern Music Series for the plan of these studies.)

Diaphragmatic breathing-exercises will be given throughout the school. In connection with the singing lessons they will aim chiefly at securing control rather than volume. In the lower grades they will not be emphasized.

The introduction to part-singing will be through rounds and canons, in which all sing the melody, and none of the voices are forced out of their natural ranges.

The German and French folk-songs will be sung in the original, others in translations or with "la." Only two or three will be dwelt upon,—those having a beautiful form—the rest being used incidentally to enhance the interest at the point where they are wanted in the other work.

Special classes will be arranged for backward children, and the prospect of a glee-club among the older boys and a quartette among the girls will be held out.

The training-class will begin systematic voice-work, with some individual instruction. The work this month will include exercises for giving conscious control of the diaphragm, vocal exercises for securing a natural tone-quality, and sight-singing, interval drill, and dictation given in two classes, elementary and advanced.

Hymns and a few simple songs used in the academic school will be sung, but the work will be chiefly technical.

The discussion of standards of taste, and the critical consideration of all songs used, will be a constant factor in this class.

Songs

First and Second Grades: *Harvest Time*, Primer, Modern Music Series; *Gray Rain*, Primer, Modern Music Series; *Rain Song*, Primer, Modern Music Series; *Autumn Song*, First Book, Modern Music Series; *Thank You, Pretty Cow*, Primer, Modern Music Series; *Apple-Tree Song*, Reinecke, Fifty Songs for Children; *Slumber Song*, in English, Modern Music Series.

The Laughing Rill, for sight-singing and notation, Primer, Modern Music Series; *Indian Song*, selected. Game Songs: *Here we Go Round the Mulberry Bush; Warm Hands*, (Old English), Baby's Bouquet (illustrated by Walter Crane).

Third Grade. *Rain Song*, Primer, Modern Music Series; *Sweet October*, Second Book, Modern Music Series; *Oriole's Nest Song*, First Book, Modern Music Series; *Wind Song*, First Book, Modern Music Series, with exercises I. and II., page 95. Sight-Reading Song: *The Weathercock*, First Book, Modern Music Series.

Fourth Grade. Folk-Songs: Greek, Chinese, German, French.

Two-Part Round, Second Book, Modern Music Series; used also for sight-singing and notation work.

Fifth Grade. *Harvest Time*, Second Book, Modern Music Series; *Sweet October*, Second Book, Modern Music Series. Characteristic Puritan Hymns; *Two-Part Round*, Second Book, Modern Music Series; used also for sight-singing and notation.

Sixth Grade. *Harvest Time*, Second Book, Modern Music Series; *Sweet October*, Second Book, Modern Music Series; *Sea Horses*, with Suggestive Studies, Second Book, Modern Music Series; *Chinese Airs and Ancient Hymns*, October COURSE OF STUDY; *Two-Part Round*, Second Book, Modern Music Series.

Seventh Grade. *Harvest Song*, Songs of Life and Nature; *Corn Song*, Third Book, Modern Music Series; *September Gale*, Songs of Life and Nature; *Happy Farmer*, Third Book, Modern Music Series; Songs on page 126, Third Book, Modern Music Series.

Eighth Grade. *Harvest Song*, Songs of Life and Nature; *Corn Song*, Songs of Life and Nature; *September Gale*, Songs of Life and Nature; *The Brook*, with Studies, Second Book, Modern Music Series; *Nile Boat Song*, October Course of Study; Songs, page 126, Third Book, Modern Music Series.

High School

Harvest Song, Songs of Life and Nature; *To-day* (Text by Thomas Carlyle), Songs of Life and Nature; *Ye Merry Minstrels* (Old English Round), Third Book, Modern Music Series; *Spirit of Summer-Time*, with Study, Third Book, Modern Music Series. Hymns: *Awake, My Soul*, Handel; *The King of Love*, Dykes.

Training School

Songs selected from those used in the Academic school. Text-books: Modern Music Series, Primer, First, Second, and Third Books, Songs of Life and Nature, Eleanor Smith.

Manual Training

Ira M. Carley Cora Champlin

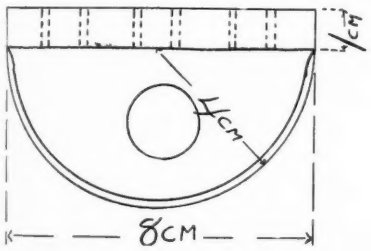
It is intended that a large part of the handwork done in the school shall be directed either toward supplying needs arising in the various occupations of the school, or to the furnishing and decoration of the school-rooms.

In this, the first month of the school year, the work is almost entirely of the former character, as there are several pieces of apparatus needed at once for the work in nature study, art, and the applied arts.

In case the same object is to be made by two or more grades the construction of the object is adapted as nearly as possible to the capability and experience of each grade.

Professional Training Class

Handwork: Construction of apparatus for Nature Study.

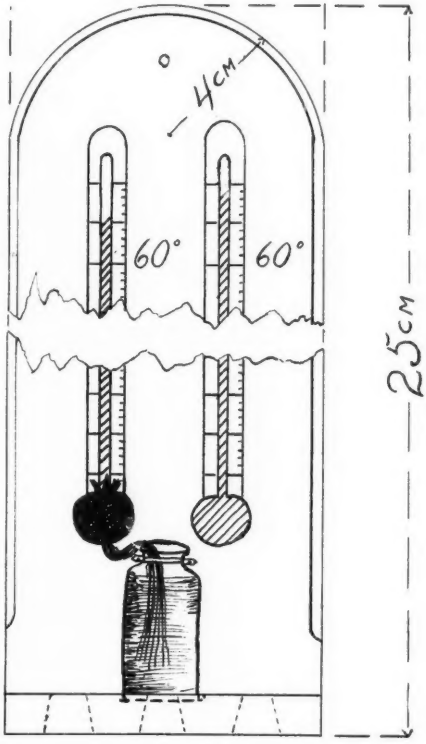


NOTE. — In order to give facility in the use of the metric system of measurement the dimensions of these pieces of apparatus will be given in metric units.

Mechanical Drawing: Orthographic projection applied to working drawings.

Designing: Preliminary drawings for a piece of woodwork for a Christmas present.

Theory: The Physical Basis of Manual Training.



HYGROMETER.

Academic School

First Grade: Canvas-covered frame for stretching and holding water-color paper.

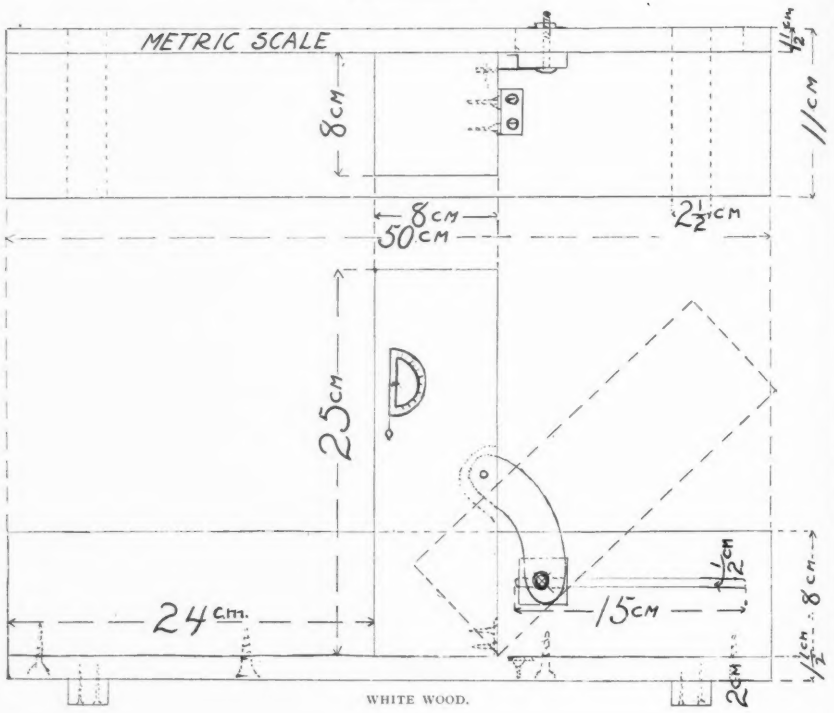
Material, white pine, ⅝ inch thick; poplar, ¼ inch.

Dimensions of frame, 14 inches by 10 inches.

Directions: Prepare two pieces, 14 inches by 1 inch by ⅝ inch, and two pieces 8 inches by 1 inch by ⅝ inch.

Nail the two long pieces upon the ends of the shorter pieces, making rectangle 14 inches by 10 inches. Prepare strip of ¼-inch white-

THE SKIAMETER.



wood 18 inches long and 1 inch wide. Use this strip for braces for the corners (laying off 2 inches from each corner on each edge of the frame). Nail the strip in place first. Then saw off, using the edge of the frame as a guide in sawing the miter. Cover the frame on one side with heavy cotton cloth. Paint canvas.

Second Grade: Loom like drawing given below, except that the frame is 15 inches by 11 inches, and the upright pieces are simply nailed to the inside corners of the frame without being cut out to bring their outside surfaces even with the outside of the frame.

Third Grade: Painting stretcher. White pine, ¾ inch thick. Dimensions, 14 inches by 10 inches. Strips 1 inch wide. Made with half-lapped joints, glued and nailed.

Fourth Grade: Loom.

In place of the harness and heddles use a piece of stiff, tough cardboard (jute board), 10½ inches by 5 inches, inclosed in a thin wooden frame. Saw off in the center of this rectangle of cardboard another rectangle 9½ inches by 3½ inches. Divide this, crossing at right angles to long edge with slits ⅛ inch wide, spaced ¼ inch apart. In the middle of each ¼ inch space make a hole about $1\frac{1}{8}$ inch in diameter. In setting up the loom, alternate threads of the warp pass through slit and hole, fastening on the stationary rod, and rolling up on the other one.

Fifth Grade: Colonial loom; one loom to be made by whole grade. Painting stretchers, 17 by 14 inches, ⅞-inch pine. Half-lapped joints; 1½-inch strips.

Sixth Grade: Platforms for use of primary grades (first and second) at Manual Training benches.

Dimensions, 24 by 14 inches by 5 by 4 inches; ⅞-inch pine.

Seventh Grade: Painting stretchers. 17 by 14 inch pine. Mitered joints; 1½-inch strips.

T-squares, 22 inches long. (See July COURSE OF STUDY for plans and dimensions, except length.) Wood: oak or cherry.

Eighth Grade: Apparatus for Nature Study: Skiameter, hygrometer, insect-drying board. (Two or three of each.)

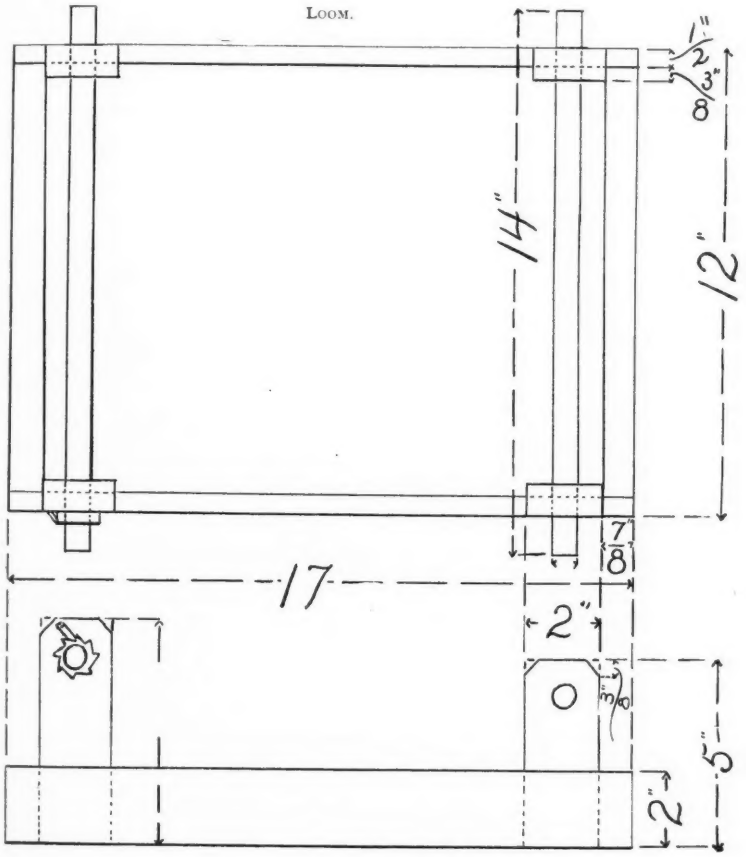
Drawing Boards: See July number of COURSE OF STUDY for plan and dimensions.

Drawing: Plans for Christmas presents.

High School: Science Apparatus. Clay modeling tools for use of school. T-squares and triangles.

Drawing: Designs and plans for furniture for teachers' rest-room and for lunch-room of new building.

LOOM.



Physical Training

Carl J. Kroh Caroline Crawford

Physical training will be taught systematically and thoroughly from the Kindergarten through the High School.

Every teacher in the Chicago Institute will be practically an assistant to the specialists in charge of this department. In all study and recitation the closest attention will be given to physical exercise and all exercises will be correlated with the other work of the school. In manual training, music, oral reading, and in constructive work of all kinds the normal development of the body will be kept steadily in view.

The physical training proper, not immediately connected with subjects of study and expression, will be of two kinds, concerted and individual. Pupils who, through some bodily defect or weakness, are not equal to concerted work will have individual and corrective work. Athletics of all kinds, plays and games, under the direction of experienced trainers, will form part of the afternoon program.

The test of physical training will be increase of self-control, of power to study, to reason, and to express thought.

MEASUREMENTS AND EXAMINATIONS: It is necessary as a starting-point to determine the type of the body to be developed and trained, whether it is above or below the median for age and sex; what the proportions are; how symmetrical it is, and how strong in different parts; where it is weakest and where strongest. (As far as practicable such examinations will be carried out in grades and professional classes.)

The following measurements are taken to discover these points:

Date

Age		Depth Chest	
Weight		" Abdomen	
Height Standing		Breadth Head	
" Sitting		" Neck	
" Knee		" Shoulders	
" Pubic Arch		" Waist	
" Navel		" Hips	
" Sternum		" Nipples	
Girth Head		Shoulder-Elbow R	
" Neck		" " L	
" Chest		Elbow-Tip R	
" " Full		" " L	
" Ninth Rib		Length Foot R	
" " Full		" " L	
" Waist		" Horizontal	
" Hips		Stretch of Arms	
" Thigh R		Capacity Lungs	
" " L		Strength Lungs	
" Knee R		" Back	
" " L		" Legs	
" Calf R		" Chest	
" " L		TB " Up. Arms	
" Ankle R		RL " Fore Arms	
" " L		" " Total	
" Instep R		Development	
" " L		Condition	
" Up. Arm R		Vision	
" " L		Hearing	
" Elbow R		Pilosity	
" " L		Color Hair	
" Fore Arm R		" Eyes	
" " L		Temperament	
" Wrist R			
" " L			

No. ..... Place .....

Name .....

Class ..... Department .....

Occupation .....

Born ..... at .....

Nationality. { Father ..... Mother ..... / His father ..... Her father ..... / His mother ..... Her mother .....

Occupation of father .....

Father died of .....

Mother died of .....

Most resemble .....

General health .....

Hereditary diseases .....

Have had of the following diseases those checked (✓):

Gout	Rheumatism	Skin Eruptions
Boils	Dyspepsia	Liver Complaint
Piles	Dysentery	Bilious Attacks
Quinsy	Bronchitis	Chronic Diarrhea
Asthma	Pneumonia	Spitting of Blood
Pleurisy	Neuralgia	Bleeding at Nose
Jaundice	Paralysis	Shortness of Breath
Dizziness	Varicose Veins	Palpitation of Heart
Sleeplessness	Habitual Headache	Colds in Head or Throat
Habitual Constipation		Enlarged Glands in Neck

Injuries, etc.

..... EXAMINER.

PHYSICAL DEFECTS: Defects of different parts of the body are noted, for with the majority both of adults and children in school some slight variation from the normal body must be overcome. The defects most frequently observed are drooping head, flat chest, uneven shoulders, hollow back, high hip, and curved spine.

NUTRITION AND ASSIMILATION: The blood tests reveal the possibility of growth under individual conditions of nutrition and hygienic environment. It is important to study the amount and kind of food in attempting to develop the individual.

SENSE TESTS: Vision and hearing are factors in both mental and physical development. Weakness in senses may react to produce weakness of the whole body.

FATIGUE: Mental and physical fatigue is watched through the dermal sensibility. Tests illustrating this point will be printed in future numbers of the COURSE OF STUDY.

Outline of Course

First Grade: Emphasis on exercises, especially of the larger groups of muscles, and regulation of breathing. Promotion of growth through the stimulation of breathing and circulation in exercise in light and air; recreative form of exercise. (Avoid any form of exercise for strength, even in the smaller muscles, in order not to consume the material necessary for growth; avoid also any demand upon the young nerves through premature training in that direction.)

PLAYS AND GAMES: For testing, developing and sharpening the sense-perceptions. Sight: differentiation of (*a*) form; (*b*) color. Hiding and seeking objects. Hearing: distance, direction of sound. Ruth and Jacob. Blind Man's Buff. Feeling (touch, eyes bandaged); distinguishing objects according to form and weight. Guess who? Strike-a-Mark.

Second Grade: Incentive to growth and blood-formation, as above. Strain of muscle avoided in consideration of the growing process.

PLAYS AND GAMES: Imitation games, based on sense-perceptions. Adam Had Seven Sons. Lame Peter, etc. Add: Sack and ball tossing and catching.

Third Grade: Importance of improved bearing and carriage (improved holding power); cultivation of poise; erect position in address. Promptness in response. Accuracy in execution of combinations of simple exercises in free gymnastics.

PLAYS AND GAMES: Add: Short, competitive games, as: First in, first out; Steeplechase, etc.

Fourth Grade: Importance of correct posture concepts in varied combinations of movements. Light to medium exercises for endurance—running, apparatus gymnastics (rhythmic series of similar recurring movements, as "traveling"), never to the point of fatigue.

PLAYS AND GAMES: To lower reaction time between definite sense-perceptions and definite actions. Pump-sack. White and Black.

Fifth Grade: Improvement of volitional control through effort in new coördination problems—free and apparatus gymnastics. Special adaptation of running and jumping exercises; moderately increased demands. Preference for the more active running games. Training for pleasure in action.

PLAYS AND GAMES: Add: "Antagonistics" in groups, employing apparatus, as: poles, ropes, etc. (like orders, without individual distinctions).

Sixth Grade: Development and practice of the characteristic forms of apparatus work—preparation for exercises of skill. Training for dexterity. Agility, alertness, cultivated in the practice of games; importance of forms leading to the more active outdoor games. Systematic marching, running, and jumping exercises with increased demands for endurance. (Avoidance of over-strenuous efforts.)

PLAYS AND GAMES: As above. Ability to recognize advantages and to follow most practical procedures. Reaction of one of several sense-perceptions through most practical action suggested. Quick discernment, judgment. Touch-Ball.

Seventh Grade: Importance of heart and lung action; moderately increased demands in apparatus work; lighter "theme work." Endurance: moderately sustained activity (*i. e.*, rhythmic, much increased activity). (To be avoided: real strain; mere ornamental and aimless drill.)

PLAYS AND GAMES: As above. Add: Three-high. Mount-Ball. Hand-Ball.

Eighth Grade: Exercises of skill on apparatus; outdoor athletics. Training for dexterity and pleasure in action. Outdoors: speed over short courses: running; endurance, long distances (moderately slow and fast); walking and running, with careful increase of duration. (Always avoid strenuous efforts leading to disturbance of breathing and circulation.)

PLAYS AND GAMES: Add: "Antagonistics"—team-work (like and unlike orders). Practice of the higher organized games in simplified form.

High School

I. APPARATUS GYMNASTICS: Exercises for dexterity, involving quick coördination and leading to skill and control. Springing exercises, as jumping and vaulting, with especial attention to execution and form, and to the avoidance of over-exertion.

GAMES: Indoor baseball, basket ball, relay racing, games of alertness, swimming, rhythmic exercises to improve grace and ease of movement, dancing calisthenics.

II. APPARATUS GYMNASTICS: Exercises for strength and skill; increased demands in coördinate activity in various combinations of typical forms, leading to endurance. Training for track and field exercises; walking, running, jumping, high and broad. Swinging and hurling of grip-balls and light weights; ball throwing. Dancing; swimming.

III. GYMNASIUM AND FIELD WORK: Training for condition; prescribed work; use of developing appliances. Practice of special forms; pole vaulting; sprint races, hurdle practice, throwing hammer, putting shot. Gymnastic games. Military exercises; stick fencing, foil fencing. Dancing; swimming.

IV. GYMNASIUM, FIELD, AND TRACK WORK: Contests between gymnastic and athletic teams and clubs. Competitive forms of exercise: Apparatus gymnastics; field and track athletics; military exercises; fencing, etc.; games and sports; football, baseball. Swimming; water sports.

Greek and Latin

Allen W. Gould

Students will begin the acquisition of Greek and Latin in the natural way of reading, writing, and speaking the simplest and most common words and sentences. The vocabulary will be drawn in part from the Roman home and Forum, army and navy, and the Greek assemblies and theaters, so that it will come as the result of the study of Greek and Roman life. The following reading lessons will be read this October, and with each lesson the student will have many oral and written exercises based upon the printed material. Where several references are given on the same subject, different pupils will have different topics assigned, and each pupil will look up his own subject and report to the whole class, so that all may have the benefit of his work.

GREEK,—HIGH SCHOOL, FIRST YEAR. The students will continue their investigation into Greek Life by studying Xenophon's Anabasis, probably reading the first two chapters in October. They will look up *Xenophon* and *Persia* in the dictionaries and encyclopedias, and *Arma* and *Exercitus* in Harpers', Smith's and Seyffert's dictionaries, and read Chapters 69 and 70 in Grote's History of Greece.

HIGH SCHOOL, SECOND YEAR. The pupils will take up the life of Socrates by studying the Memorabilia of Xenophon and the Apology, Crito and Phædro of Plato. They will begin with the Memorabilia, reading the first three chapters in October. They will look up *Socrates* in Harper's and Seyffert's Classical Dictionaries, and Smith's Dictionary of Biography,

and in the encyclopedias. They will also begin to read chapter 68 in Grote's Greece, and Chapter 2 of Book 5 in Curtius' Greece.

HIGH SCHOOL, THIRD YEAR. The students will devote this year to a study of Greek Mythology and Religion as found iu Homer's Odyssey. The first book will be read in October, and the pupils will also look up *Homer* in Harper's, Seyffert's and Smith's Dictionaries and in the encyclopedias, as well as in Murray's History of Greek Literature and Mahaffey's Greek Classical Literature, Vol. I.

HIGH SCHOOL, FOURTH YEAR. In the fifth year the pupils will study the character and influence of the Athenian stage. They will read about four hundred lines of the Antigone of Sophocles in October, and will also look up *Sophocles* and the *Theatre* in Harper's, Smith's and Seyffert's Dictionaries, and read Chapters 9, 10, and 11 in Blümner, and Section 30 in Guhl and Koner, and the chapter on the Theatre in Garder and Jevon's Manual of Greek Antiquities.

LATIN,—HIGH SCHOOL, FIRST YEAR. This year will be devoted to a study of the Roman Republic the first century before Christ as found in Sallust and Cicero. The students will begin with Sallust's *Conspiracy of Catiline*, reading about forty chapters in October. The pupils will also read and report to the class on *Sallust*, *Cæsar*, *Cicero*, and *Catiline* in Harpers', Smith's and Seyffert's dictionaries, and in the Encyclopedias. They will also read Chapter V in Strachan-Davidson's *Cicero and the Fall of Rome;* Chapter V in Warde-Fowler's *Julius Cæsar and the Foundation of the Roman Empire;* and Chapter II in Froude's *Cæsar*.

HIGH SCHOOL, SECOND YEAR. The study of the imagination of the Romans as shown in the poets Catullus, Lucretius, Tibullus and Ovid. In October the pupil will read Catullus, 1, 2, 3, 4, 9, 27, 31, 44, 45, 46, 84, 101, and begin 64. The students will look up *Catullus* in Harper's, Smith's and Seyffert's dictionaries, and the encyclopedias, as well as in Cruttwell's *History of Roman Literature*. In reading 64, *Ariadne* will be studied in the dictionaries, and in the reproductions of works of ancient art available.

HIGH SCHOOL, THIRD YEAR. In the third year the study will be the Roman religion as seen in Virgil's poems. In October the students will read the fourth Eclogue and then start their work in the first book of the Æneid. They will also look up *Virgil* in the dictionaries and encyclopedias, and in Cruttwell.

HIGH SCHOOL, FOURTH YEAR. This year will be taken up in reading what is best in the Roman life under the Empire and will be introduced by reading a few poems of Horace. In October the pupils will read Epode 16, 17 and 2; Odes, I, 14 and 37; II, 5; I, 34 and 9; II, 3, 7 and 14; III, 2, 3 and 13.

The students will also learn about *Horace* from the dictionaries and encyclopædias, and Cruttwell, as well as from Merivale's *History of the Romans under the Empire*, Chapters 30, 31, 32, 33, and 41.

Greek Reading Lessons.

I.

Ὁ ἄνθρωπος φύσει πολιτικὸν ζῷον ἐστί. Ἀριστοτέλης.

οἱ Ἀθηναῖοι ἦσαν ἐλεύθεροι. οἱ Κορίνθιοι καὶ οἱ Θηβαῖοι ἦσαν ἐλεύθεροι. οἱ δοῦλοι οὐκ ἦσαν ἐλεύθεροι. οἱ Ἀθηναῖοι κύριοι τῶν δούλων ἦσαν. οἱ νόμοι κύριοι τῶν Ἀθηναίων καὶ τῶν Κορινθίων ἦσαν. ἆρα οἱ νόμοι δίκαιοί εἰσιν; ἆρα ἐλεύθεροι ἐσμεν; ἆρα οἱ νόμοι εἰσὶ κύριοι τῶν ἀνθρώπων; ἆρα οἱ νόμοι δίκαιοί εἰσι;

Look up *Aristotle* in Harper's and in Seyffert's Classical Dictionaries. Find the location of Athens, Thebes, and Corinth.

II.

Καλὲν φέρουσι καρπὸν οἱ σεμνοὶ τρόποι. Μένανδρος.

ὁ διδάσκαλος τοὺς τῶν Ἀθηναίων υἱοὺς διδάσκει ἐν τῷ διδασκαλείῳ. οἱ σοφοὶ ἄνθρωποι ἔχουσι διδασκάλους τοῖς υἱοῖς. ὁ παιδαγωγὸς ἄγει τὸν τοῦ Ἀθηναίου υἱὸν εἰς τὸ διδασκαλεῖον. ὁ παιδαγωγὸς τὸν τοῦ νέου κυρίου στύλον φέρει. ὁ παιδαγωγὸς εστι δοῦλος. ὁ διδάσκαλος ἐστιν ἐλεύθερος. οἱ υἱοὶ τὸν μισθὸν τοῦ διδασκάλου φέρουσι. ἆρα ὁ παιδαγωγὸς ἢ ὁ διδάσκαλος τοὺς τῶν Ἀθηναίων υἱοὺς διδάσκει;

Look up *Menander*, *Ludus*, *Pedagogue*, and *Education* in Harpers' and Seyffert's Classical Dictionaries; also read Chapter III in Blümner's *Home Life of the Ancient Greeks.*

III.

Οὕτω δημόσιον κακὸν ἔρχεται οἰκαδ' ἑκάστῳ. Σόλων.

ὁ Ἀθηναῖος ἐστι τυφλός. ὁ Ἀθηναῖος πέμπει τὸν δοῦλον εἰς τὸ ἰατρεῖον. ὁ δοῦλος τὸν μισθὸν τῷ ἰάτρῳ φέρει. ὁ ἰατρος τὰ φάρμακα πέμπει ἐκ τοῦ ἰατρείου. τὰ φάρμακα τοὺς ὀφθαλμοὺς τοῦ τυφλοῦ οὐκ ἰάονται. εἰς Ἐπίδαυρον ἔρχεται ὁ τυφλός. ἐν Ἐπιδαύρῳ ὁ θεὸς Ἀσκληπιὸς τὸν ναὸν ἔχει. ὁ τυφλὸς δῶρον τῷ θεῷ φέρει καὶ ἐν τῷ ναῷ καθεύδει.

Look up *Medicus* in Harper's and Smith's Classical Dictionaries, and read Chapter VII in Blümner's *Home Life of the Ancient Greeks.* Look up *Solon* in Harper's and Seyffert's Dictionaries.

IV.

Ἀνάγκη δ' οὐδὲ θεοὶ μάχονται. Σιμωνίδης

ἀνάγκη ἦν τοῖς υἱοῖς τῶν Ἀθηναίων μανθάνειν μουσικὴν καὶ γυμναστικήν. οἱ διδάσκαλοι τοὺς τῶν Ἀθηναίων υἱοὺς ἐδίδασκον γράφειν καὶ ἀναγιγνώσκειν. τὸ Ἀθηναῖον διδασκαλεῖον ἦν οὐ θερμόν. ὁ Ἥλιος ἐν ταῖς Ἀθήναις ἦν θερμός. οἱ Λακεδαιμόνιοι τοῖς βαρβάροις ἐν Θερμοπύλαις ἐμάχοντο. οἱ υἱοὶ τῶν Λακεδαιμονίων ἐμάνθανον μουσικὴν καὶ γυμναστικήν. αἱ Λακεδαιμόναι κόραι ἐμάνθανον τὴν γυμναστικήν. αἱ Ἀθηναῖαι κόραι ἐμάνθανον οὔτε τὴν μουσικὴν οὔτε τὴν γυμναστικήν.

Look up *Musica* and *Simonides* in Harpers' Classical Dictionary; also read Chapters VIII and IX in Blümner's and Section 51 in Guhl and Koner's *Life of the Greeks and Romans.* Where are Lacedæmon and Thermopylæ?

V.

Τὸν λόγον εἶδωλον εἶναι τῶν ἔργων ἔλεγεν. Σόλων.

ὁ παιδαγωγὸς τὴν τοῦ νέου κυρίου λύραν εἰς τὸ διδασκαλεῖον ἔφερε. ὁ υἱὸς τοῦ Ἀθηναίου ἐμάνθανε τὴν λύραν τοῖς τε δακτύλοις καὶ τῷ πλήκτρῳ κρούειν. ἡ Ἀθηναία κόρη ἐμάνθανε οὐ κρούειν ἀλλὰ ὑφαίνειν τε καὶ κλώθειν. ἆρα ἡ Ἀθηναία κόρη ἐπιστολὴν τῷ στύλῳ γράψει καὶ πέμψει αὐτὴν εἰς τὸν ἀδελφὸν; ὁ δοῦλος ἔφερε τὴν ἐπιστολὴν εἰς τὸν τοῦ κυρίου υἱὸν.

Look up *Tela* in Harpers' and Smith's Dictionaries, and *Weaving* in Seyffert's. Read Chapter IV in Blümner and section 48 in Guhl and Koner.

VI.

Τὸ δίκαιόν εστι διττὸν, τὸ μὲν ἄγραφον τὸ δὲ κατὰ νόμον. Ἀριστοτέλης.

ἀνάγκη ἦν τοῖς νέοις Ἀθηναίοις μαχεσθαὶ μανθάνειν. οἱ μὲν πελτασταὶ πέλτας οἱ δὲ τοξόται τόξα εἶχον. οἱ ὁπλῖται εἶχον οὔτε πέλτας οὔτε τόξα. οἱ τοξόται καὶ οἱ πελτασταὶ καὶ οἱ ὁπλῖται ἦσαν στρατιῶται. οἱ στρατιῶται ὅπλοις ἐμάχοντο. τὰ ὅπλα αἱ ἅμαξαι ἔφερον σταθμὸν ἕνα, παρασάγγας πέντε, καὶ ἐνταῦθα ἔμεινον ἡμέρας πέντε.

Look up *Arcus* and *Clipeus* in Harper's and Smith's Dictionaries, and read Chapter XIII in Blümner and section 54 in Gühl and Koner.

Latin Reading Lessons.

I.

Discite justitiam. Vergilius.

Schola est in tabernis. Schola est hora prima. Virginia in Scholam it. Virginia litteras discit. Puellæ litteras discunt. Puella Romana in tabellis litteras scribit. Ferula in schola est. Scholæ interdum

in viis sunt. Puellæ letteras Græcas discunt. Romanæ poetas interdum discunt. Serva in Scholam tabellam puellæ fert. Justitiamne puellæ Romanæ discunt?

The pupils will look up *ludus*, *taberna*, *tabella* in Harpers', Rich's and Smith's Classical Dictionaries, and *Virginia* in Harper's Classical Dictionary and Smith's Dictionary of Biography. They can also consult the Excursus on *Education* in Becker's Gallus, and read a part of Macaulay's *Virginia*.

II.

Cedant arma togæ. Cicero.

Magister bonus pueros Romanos docet. Servus in scholam tabellam pueri fert. Pueri Romani litteras Græcas discunt. Justitiamne pueri Romani discunt? Puer Romanus togam prætextam gerit. Civis Romanus togam gerit. Nec Gallus nec servus togam gerit. Gallus bracas gerit Romani Galliam transalpinam bracatam. Galliam cisalpinam togatam appellant. Matrona Romana stolam gerit. Supra stolam gerit matrona pallam.

The students will look up *braca*, *stola*, *toga* and *tunica* in the Classical Dictionaries, and consult the Excursus on the *Dress* of Men and Women in Becker's Gallus, and Section 95 in Guhl and Koner's Life of the Greeks and Romans.

French

Lorley Ada Ashleman

The French language, the study of which is begun in the third grade, is taught on the same principle as English, German, Latin, and Greek. It is correlated with all subjects of study. The pupils use the language, both spoken and written. For the primary grades the work in French is correlated almost entirely with handwork, games, and simple gymnastic methods. These represent the strongest interests of the little child. In connection with cooking, all the necessary directions are given in French by the teacher; and the children are taught to associate the dishes, cooking utensils, etc., with their French names. Through the constant recurrence of the necessity for lighting the fire, boiling water, setting the table, etc., the vocabulary associated with the action and objects involved in these operations becomes firmly fixed in the child's mind. In the same way the play instinct is utilized, and games chosen which involve a great deal of action and the repetition of simple phrases. Stories are dramatized for the amusement of the other children, and reproduced for the same purpose with paints and clay.

THIRD GRADE. The work of this grade is correlated with sewing and geography. Children will hem towels to be used in the school. In connection with geography, excursions will be taken to South Water street and elsewhere, in order that the children may acquire some idea of Chicago as a commercial center. On the excursions to South Water street the fruits and vegetables will be purchased for the use of the classes engaged in cooking.

FOURTH GRADE. French lessons in this grade are correlated with the cooking. The operations at the beginning are necessarily simple, and include the making and serving of such dishes as apple-sauce, etc. "La Bergere," a little French song, will be memorized and sung as a part of the entertainment for the guests whom the children serve with lunch.

FIFTH GRADE. French is taught in connection with the study of the distribution of seeds by winds, water, and animals.

Children make collections of seeds for the spring planting, and construct boxes in which to keep them.

In connection with man's part in the distribution of seeds the following stories will be told and dramatized: "*How Potatoes Were Introduced into France*," and "*The Introduction of Tobacco into England*."

SIXTH GRADE. In this grade the work is based on Nature Study. Children will study temperature, rainfall, clouds, and cloudiness, humidity, winds, fogs, frost and dew, and the effects of these varying conditions upon vegetation. The use of French idioms is introduced in this connection. The children of this grade will construct throughout the year, beginning with October, French calendars for the use of the school. A French song on the seasons will be taught.

SEVENTH GRADE. Geography and Nature Study is the basis of seventh grade work. The children study the autumn aspects of the fields and woods, and reproduce with colors the most attractive autumn scenes or flowers for the use of the children in the sixth grade, who are making calendars. In the geography a study will be made of the Chicago and Illinois rivers, introducing sketches of La Salle, Marquette, and Joliet. These stories may be dramatized.

EIGHTH GRADE. Water and waterways. Study of Chicago River as a type and of the water-shed at Oak Park. There will be excursions to Oak Park and to the Desplaines River. Drainage Canal: Its function; the effect its construction may have upon the commerce of Montreal.

The High School pupils will present to this class, in the form of reading matter, any interesting information they may have collected on a visit to a French village near Kankakee.

French Reading Lessons.

Aventures des Premières Pommes de Terre en France.

Les Espagnols constatèrent lors de leur conquête du Nouveau Monde que la pomme de terre constituait une des principales ressources alimentaires des régions de Quito. Ils l' introduirent en Espagne en 1553. "La Chronique du Péru" en fait mention sous le nom de "battala" ou "papa."

De l'Espagne la pomme de terre passa en Italie, et de là elle fut apportée en Belgique.

Le sieur de Waldheim, préfet de Mons (51 kilomètres s. o. de Bruxelles) envoya ce légume, l' estimant un cadeau bien rare, au roi de France.

Henri II. fut sensible à cette attention et en donna la preuve en faisant préparer un festin dans lequel la pomme de terre prit la place d'honneur.

Tous les grands seigneurs du pays y furent invités pour faire la connaissance de ce légume merveilleux. Une certaine agitation se manifesta parmi eux à l'apparition de la pomme de terre.

Le roi fut le premier d'en goûter. Une bouchée, deux bouchées et l'on passa le plat sous silence. Tous les courtesans imitèrent le roi: personne n'osait être le premier à passer jugement sur la pauvre pomme de terre.

En conséquence de cette aventure le monarque fit jeter toutes les pommes de terre hors des fortifications de la ville.

Mais pour quelle raison la pomme de terre tomba-t-elle ainsi en disgrâce? Les Français aiment bien les salades et le chef de cuisine ne les avait pas fait bouillir avant de les servir dans une mayonnaise délicieuse.

Une quinzaine plutard quelques soldats

bivouaquaient hors de la ville de Paris. Ils étaient assis autour d' un bon feu.

"Qu'est-ce que c'est donc que cette bonne odeur qui saut de ces cendres?" dit un soldat à son camarade. "Cherchons un peu." Ils fouillèrent dans la braise avec le bâton et une des célébres pommes de terre envoyée au roi par le préfet de Mons y resta fixé. En la détachant du bâton la farine blanche qui en sortit était si appétissante qu'elle fut avalée sans la moindre cérémonie.

Imaginez-vous cette fête à la recherche des pommes dè terre.

Le lendemain les soldats entrèrent dans la ville et l'histoire de la trouvaille se répandit rapidement. Elle arriva aux oreilles du roi.

J'ai certaines appréhensions que le malheureux chef de cuisine ne perdît sa position pour avoir servi des pommes de terre crues au festin d' un monarque!

Quoiqu'il en soit la chronique nous informe que l'on fit venir une autre provision de, "battalas." Le roi donna une autre fête, et cette fois (les pommes de terre étaient roties) les gourmands même n'y trouvèrent rien à redire.

Savez-vous comment il arriva que la pomme de terre ne devint pas une nourriture générale avant le règne de Louis XVI., et comment il se passa que la reine Marie Antoinette en porta les fleurs dans sa belle chevelure? Eh bien, ceci fera un bien joli conte pour un autre jour.

* * * * * *

Alexandre Dumas avait des unes plus pratiques et d'une utilité plus immédiate quand il composa son "*Grand Dictionnaire de Cuisine.*"

Alexandre Dumas était un beau mangeur comme il etait un beau conteur. Dans le cours de l'année, 1869, il l'écrivit le "Grand Dictionnaire de Cuisine," dont voici quelques extraits.

"L' homme ne vit pas de ce qu'il mange mais de ce qu'il digère; quelque part que l'homme soit né il faut qu'il mange. L'homme sauvage mange par besoin, l'homme civilisé par gourmandise. C'est pour l'homme civilisé que j'écris mon Dictionnaire."

Pommes de Terre à la Parisienne.

Faites fondre un morceau de beurre ou de graisse dans une casserole avec un ou deux oignons coupés en petits morceaux; ajoutez-y un verre d 'eau et jetez-y vos pommes de terre, que vous aurez pelées proprement, avec sel, poivre, bouquet garni et faites cuire à petit feu.

Purée de Pommes de Terre.

Faites cuire à l'eau des pommes de terre bien farineuses, écrasez-les, passez-les à travers un "passe-purée," mettez-les ensuite dans une casserole avec du beurre, du poivre et du sel, remuez-les comme une bouillie, ajoutez un peu de lait jusqu'à ce que cette purée ait une épaiseur convenable et servez-la garnie de croûtons frits dans du beurre.

Pomme de Terre a l'Italienne.

Faites cuire des pommes de terre dans l'eau, pelez-les et écrasez -les, mêlez-y un morceau de beurre, de la mie de pain trempée dans du lait; versez un peu de lait pour faire une pâte manible, ajoutez sept ou huit jaunes d'oeufs frais et cinq blancs battus en neige, mêlez bien le tout et dressez-le en pyramide sur un plat. Faites couler dessus un peu de beurre fondu; faites cuire au four de belle couleur et servez chaudement.

Pommes de Terre Farcis.

Lavez et pelez une douzaine de pommes de terre, fendez-les en long par le milieu et creusez-les adroitement avec un couteau ou une cuiller; puis faites une farce avec deux pommes de terre cuites, deux échalotes hachies, un peu de beurre, un petit morceau de lard gras et frais, un pincée de persil et ciboule hachies, pelez le tout ensemble, ajoutez sel poivre, formez-en une pâte liée, emplissez l'intérieur de vos pommes de terre avec cette farce en bombant un peu le dessus: garnissez de beurre le fond d'une tourtière, rangez les pommes de terre dessus, faites les cuire à feu modéré pendant une demi-heure, feu dessous et dessus afin qu'elles se rissolent, et servez.

German

Siegfried Benignus

The instruction in German will begin at the age of ten, and will be given one recitation daily.

The perceptive faculty of the pupils will then have been sharpened by four years of school work. They can read and write the English language tolerably well, and can comprehend the principal rules of its grammar. Their organs of speech are still elastic, and by the aid of a correct phonetic method, are readily adaptable to the various positions needed in the production of the specific vowels and consonants of the German tongue. Their interest for the cognate language can be easily awakened at this age, and since they are not overburdened as yet with other branches of study, they will be eagerly responsive to the spirit of the language and to the life of the German people.

To advocate beginning at a later age would mean the losing of a great deal of precious time. Besides, older people are often seriously handicapped by the ridiculous dread of blundering in attempting to speak a foreign language. As a rule, to begin earlier than the tenth year would be unwise, and to argue for it would be to overestimate the capacity of the child, or to underestimate the difficulties of the German language, which, though properly beginning early in the course, is not to be regarded as milk for babes.

The subject-matter for the first year is:

1. The school.

Objects in the schoolroom, their place, their number, their color and form, the materials of which they are made.

Persons (teachers, pupils and visitors) in the schoolroom, their name, their age, and ordinary movements.

2. Arithmetic.

Cardinal numerals to 100; addition and subtraction; ordinal numerals.

3. Division of time.

The hour (watch, clock), days of the week, months, date, festivals, holidays, vacations, phenomena of the four seasons; variations of temperature.

4. Reading exercises in the German letters.

5. Writing exercises in the German small and capital letters.

"Normal" alphabet as taught in Germany; dictations (new orthography as laid down by the German government); memorizing in prose and verse of easy and attractive subjects.

The grammar in connection with the aforesaid subject-matter will include:

a. Formation of the plural of substantives.

b. Declension in the singular with adjectives.

c. Application and declension of articles, of possessive pronouns, and of the principal demonstrative and interrogative pronouns.

d. Conjugation of simple and compound verbs in the indicative present and imperfect, and in the imperative.

e. Affirmative, negative, and interrogative sentences.

f. Constructions direct and inverse.

The month of October will be devoted especially to the training of the ear, and the elements of writing and reading.

High School and Pedagogic School

To go successfully through the four years of high school, a course of three years at least in German is prerequisite. Thepupils should become as perfect as possible in speaking, writing, and reading, and should become familiar with German liter-

ature, life and habits, history, geography, and commerce.

The instruction for post-graduates and adults who have learned German already, will aim to accomplish the following:

1. They should be thoroughly and practically versed in good conversational forms with the various idiomatic expressions commonly used in Germany. They should be able to speak this language of everyday life readily and fluently with Germans here or in Germany itself.

2. They should acquire a correct pronunciation, free from foreign accent.

3. They should learn to master the written language, with its grammar and orthography, in order to express themselves plainly and concisely on every subject of life.

4. They should attain to a fair knowledge of German literature, and to an understanding of the reciprocal influences of the two kindred languages and literatures.

5. They should become acquainted with German history, geography, political and national affairs, and something of German journalism.

6. They should learn to comprehend the manifold and blessed correlations of the Americans and Germans in art, science, technics, commerce, and humanitarian aims.

7. They should become familiar with the different methods of teaching German, regulating the kind and quantity of subject-matter according to the given time and to the capacities of the pupils.

The detailed monthly programmes for high school and for post-graduate work will be arranged from the best pedagogical standpoint in accordance with the necessities of the individual immediately after the opening of the Chicago Institute.

The following numbers of the COURSE OF STUDY will contain besides the monthly work for beginners, high school and pedagogic school, essays on the educational value of German, including method and teaching.

Department of Library Economy

Irene Warren

Frances Simpson

The aims of this course are to acquaint the student with the best books for children, and to bring into systematic lists the student's scattered knowledge of juvenile literature, so that he may more intelligently direct the child's reading and administer a school library. Carefully selected classified lists will be given each student. Certain books will be assigned him to read and report on their literary merits and their adaptation to the child's interest and the school work. As the library is considered a central laboratory of the Institute, its work is most closely related to every department, and excellent opportunities are given of testing the books with the children. Each student will be given some practical problem to be worked out, such as: Make a classified reading list of the best books on birds for a seventh-grade class, list to include literature, science, pictures and music.

Two hours a week will be devoted to the class work, and four hours a week to laboratory work.

Outline of Work of the First Quarter

1. **Bibliography of Children's Literature:** Picture Books. Classified lists of juvenile books in history, literature, geography, science. Reference books.

2. Book-Making as Constructive Work: Printing, illustrating, title-pages, tables of contents, pagination, indexing.

3. Children's Work in Public Libraries: Children's reading rooms, picture bulletins, library league, home libraries.

References: Children's Literature: *The Child and His Book*, Mrs. E. M. Field; Gardner, 1892. *Five Hundred Books for the Young*, G. E. Hardy; *List of Books for Boys and Girls*, Library Bureau; *Mastery of Books*, H. L. Koopman; American Book Company, 1896. *Literary Landmarks*, M. E. Burt, Houghton, Mifflin & Co. *Report of Committee on Relations of Public Libraries to Public Schools*, 1899, National Educational Association. *Children's Reading List on Animals*, Boston Book Company, 1899. *List of Books for Third Grade Teachers*, Cleveland Public Library; *Course of Study in History and Literature*, Emily J. Rice; Flanagan, 1898. *Reading for the Young*, and *Supplement*, J. F. Sargent; Library Bureau, 1890-6. Lists of Books for Children, printed by the State Library Commission, State Superintendent of Schools, Local School Superintendents, and Librarians; Publishers' Graded Lists.

The Kindergarten

Anna Elizabeth Allen

The growing thought in the mind of the teacher is to make the Kindergarten another home for the children, with larger interests, and opportunities for wider experiences than their individual homes can possibly give them. It will give them their first introduction to community life, and for the first time an objective view of their home life and their relation to others outside their family and immediate surroundings.

Through the medium of the ideal conditions of equal age and equal rights and responsibilities for all is fostered the growth of the true feeling of fellowship, and a recognition of law and its function in harmonizing diverse elements.

Therefore, our first term of three months (October, November, and December) will be devoted to relating the home and school by mirroring the former in the work of the latter, and in harmonizing the different elements in our small community under a law so simple and comprehensive that all may understand and naturally obey it.

During the month of October we shall begin with the personal, vital interests of home life, picturing the individual relations of each child to his home surroundings and encouraging freedom of expression in every way. To further the home-like feeling the parents will be constantly invited to visit the Kindergarten, especially on birthdays and all other anniversaries celebrated in the school, and so far as possible, to take part in the exercises. The larger subject around which our work may be centralized will be:

Law and Order. Special Topic: Home Life. (a) Members of Family. (b) Order of Life in Homes. (c) Children's Room. (d) Different Rooms in Homes.

1. Members of family.

(a) Relation to Life of Child. (b) Animals and Their Care. (c) Relation and Dependence of each to all.

2. Order of life in homes.

(a) Rising hour. (b) Meal-time. (c) School time. (d) Social time. (e) Bedtime.

3. Children's room.

(a) Furniture. (b) Toys. (c) Relation of Mother or Nurse to the Nursery.

4. Different Rooms in Homes and their Use.

(a) Drawing-room. (b) Library. (c) Dining-room. (e) Bedrooms. (f) Kitchen.

Games: So far as the weather permits the games will be played out of doors, and chosen and taught by the children themselves. They will consist of those played at home, and such romping games as

will serve to free the children from self-consciousness, and induce a feeling of freedom and social life, viz.: "The Circles," "The Old Gray Cat," "Pussy Wants a Corner," "Catcher," "Hide and Seek," "Tag," "Postillion Game," "Did You Ever See a Lassie," "Pantomime," etc.

RHYTHM: Bouncing of rubber balls to different tempos, simplest marching, skipping, running, and galloping in single line and in pairs.

Stories: Nursery Rhymes and Jingles, The Three Bears, Three Little Pigs, stories of simple home life.

Songs: *This Is the Mother so Kind and Dear*, Eleanor Smith, Part I; *Loving Mother, Kind and True*, Hill's Songs; *Go to Sleep, Thumbkins*, Smith, Part I; *Sleep, Baby, Sleep*, Smith, Part I; *These Are Mother's Knives and Forks*, Gaynor; *Rhythm Game*, Gaynor; *The Brownies*, Gaynor; *The Tea Kettle*, Gaynor; *Song of the Kitchen Clock*, Gaynor; *In Thine Eyes oh! Mother Darling*, Reinecke.

Materials: Clay, paints, large blocks, sand, crayon, and blackboards.

Clay Modeling: Modeling toys, viz.: marbles, balls, dishes, dolls, and kitchen utensils.

Drawing: Pictures of dolls, doll houses, and furniture houses; illustration of stories.

Cutting: Paper dolls.

Painting: Pictures for doll houses; illustrating stories.

Large Blocks: Building doll houses large enough to get into, with furniture to fit; models of houses, showing position of windows, doors, etc.

Sand: Smallest children play freely in sand with tools; larger ones lay out plan of home grounds, gardens, flower-beds, walks, etc.

First Grade

Harriet Bradley Atwood

History—Study of Home Activities: There will be a continued constructive play carried on throughout the year based on the children's interest in their individual homes.

1. In this connection, in October they will begin the construction of a playhouse, to be in miniature the homes in which they would like to live. In the planning of rooms, decoration, and furnishing, each child will be guided by his own taste and judgment. He will, however, have opportunity given him to see beautiful designs and models, and by constant observation, comparison, and discussion, his crude image of the home will grow in beauty and vividness.

2. Function of the home—protection against heat, cold, storm, and enemies. The children will be asked to construct a simple home which they think would protect them in this season. They will observe what is in their environment and be allowed to experiment. The probable outcome will be a tent or wigwam.

Simple stories of people who really lived in such houses will then be told, illustrating their advantages, disadvantages, food, clothing, furniture, and habits. Owing to the greater simplicity of the primitive home, the children will be better able to understand how environment influences the life of a people and how man has been enabled to overcome environment under varying conditions.

Literature: 1. A period for social entertainment will be a regular part of every day's program. The desire to add to this entertainment will be the child's motive for the telling and dramatization of stories, myths, poems, and songs. Some of the stories used during October will be:

Golden Rod and Aster, Cooke's *Nature Myths; Clytie*, Bullfinch's *Mythology; Hiawatha's Childhood, Mondamin, Pearl Feather*, Longfellow's *Hiawatha*. Selected Indian myths, stories, and games. Selected ethical and animal stories, depending upon the experience of the class.

Geography: Constructive study of the landscape, based upon field trips to the

following typical areas: beach, cliff, ravine, swamp, woods, prairie, and farm.

The children will construct a background of paper upon which they will represent with water-colors or crayons the general appearance of the October landscape in each typical area. They will also make models in sand showing general topographic relations of the areas studied. (As far as possible these areas will be represented in an outdoor laboratory, and the children will try various experiments with typical plants and animals.) They will bring their collections of soils, stones, water, etc., to these models and test their observation by attempting to distribute them properly. With the material thus roughly classified, the indoor work will consist in comparing the groups as to their chief characteristics, and in recording the data from all sources in permanent form by means of paper cutting, painting, and writing. (See July number of COURSE OF STUDY, page 78.)

Nature Study: 1. Study of the October landscape by means of daily pictures on blackboard.

2. Recording of observations as to birds, insects, animals, flowers, etc.

3. Selection of trees for study throughout the year.

4. Fall visit to animal house in Lincoln Park.

5. Gathering of seeds for use in spring.

6. Drying of fruits.

7. Fall visit to the farm. Classification of stones and other specimens found on field trips.

8. Study of changing temperature in connection with observations concerning bird departures, fall of leaves and housing of animals in the Park.

Correlated Number: Actual measurements and calculation needed for clear imaging in history, literature, geography, nature study, and constructive work:

1. Making of plans for floor of playhouse, work-bag, tags for desk and hooks, leaves for dictionaries, envelopes for seeds.

2. Measurement of heights of children.

3. Use of thermometer.

Reading: 1. Sentences written on blackboard.

2. Printed lessons and records in connection with work in central subjects.

3. Cook County Normal School reading lessons.

4. Selected stories from *Animal Life*.

5. Selected stories from *Hiawatha Primer*.

Writing, Spelling, English: Recording of things seen on field trip; observations concerning birds seen in the neighborhood during the month; recording heights and ages of children; placing of words in dictionaries; descriptions of October landscape, of regions visited, of objects of interest; reproduction of stories in writing; constant incidental training in oral language.

School Economics: Care of wraps and material. Cooking of simple foods; effect of boiling and baking upon fruits. (See Miss Cooke's outline.)

Art: Illustrating stories; painting, modeling and paper-cutting; painting of October landscape; painting of backgrounds in connection with field trips; blackboard illustration with colored crayons; record of material found on field trips by means of painting, paper-cutting, or modeling; painting of trees selected for study.

Industrial Art: Making of field-bags; designing of rugs or carpets for floor of playhouse; making of costumes for dramatic representations.

Dramatic Art: 1. Dramatic representation of scenes in the lives of the Indians, both historical and imaginary, and of stories told whenever the imaging can be intensified in that way. Training in hearing and reproducing sound.

2. Oral Reading — Poems for memorizing: *How the Leaves Came Down*, Susan Coolidge; *Autumn Fires*, Stevenson.

Music: Songs: *Gray Rain; Harvest Song*. Melodic exercises in interval work, based on songs; simple work in original musical expression.

Manual Training: Making floor for playhouse, tags for desks and hooks, envelopes for seeds, leaves for dictionaries, and stretcher for painting paper. (See Manual Training outline.)

Physical Training: 1. Anthropometry; measurements; examination; sense tests; blood tests.

2. School-room exercises; position; standing; motor work; primitive games.

3. Work in gymnasium; individual gymnastics; class gymnastics; rhythm; primitive games.

Second Grade

Antoinette Hollister

History: The work of the year for the second grade will be a study of the immediate necessities of the child and of the related experiences of the race. A brief study will be made of the child's environment, and he will select what he regards as necessities in his school and home life. He will discover that his clothing, food, and shelter are supplied as a result of the labor of many individuals, and that the comforts he enjoys are possible because of community life. In order to help him to realize and appreciate present social conditions he will be asked to imagine these conditions removed, and to attempt to solve the problem of the provision of clothing, food, and shelter as it must have been solved by the primitive peoples.

The danger of attacks from wild beasts will necessitate the invention of weapons of defense, and the need of shelter will point out the use of the cave home. The children will construct a cave, and people it with representations in clay of the cave men engaged in the occupations to which they must have been limited.

They will visit the Field Columbian Museum, and become familiar in this way and through the use of pictures and the stereopticon with the tools, weapons, and implements used by the cave men, and with their style of ornament.

The result of the investigations of one group will be given to another in the form of reading matter or dramatic representation.

Literature: *Story of Jubal, Jabel, and Tubal Cain*, George Eliot; *The Tree*, Björnsen; *Appleseed John;* History of Ohio. Stories adapted from the history of primitive peoples will be printed for use in this grade.

Geography: Caves. Children will begin with a study of the lake shore, observing the action of air and water upon rocks. They will experiment with acids upon limestone, and make with the acid a small cave in limestone.

With pictures and stereopticon slides they will study the famous caves of the world, especially those in which remains of the cave men have been found. They will try to discover the source of underground water; how water enters the earth; the work of underground water, and the method of formation of stalactites and stalagmites.

NATURE STUDY: Harvest. A visit to a farm will serve as a basis for much of the work of this month. Collections will be made of some of the farm products, and their functions will be studied. The children will study, wherever possible, the processes of storing and preserving food products, and will themselves decide upon a plan for preserving for future use the seeds and fruits which they collect. They will also study the dispersion of seeds by means of wind and water; the carrying of seeds by animals; methods of self-distribution of seeds, and man's part in their distribution. They will discuss the function of color in fruits.

Correlated Number: Simple addition, multiplication, and division in connection with the nature study, history, manual training, and physical training and industrial art. Use of weights and dry measures in the study of fruits.

Reading: Reading matter correlated with the child's interests, activities, and experience.

Writing and Spelling: Continued attention to habits of correct punctuation, spelling, and improvement in form and expression.

School Economics: (See Miss Cooke's outline.)

Art: Modeling of cave men. Painting of scenery for the puppet theater. Painting of autumn landscape.

Industrial Art: Making of weather signals; dictionary; modeling aprons.

Dramatic Art: Composition of original plays to be played in the puppet theater. Dramatization of stories.

Music: *Harvest Time*, Primer (Modern Music Series); *Autumn Song*, Primer (Modern Music Series); *Rain Song*, Primer (Modern Music Series); *Gray Rain*, Primer (Modern Music Series); *Pretty Little Johnny*, Reinecke; *Thank You, Pretty Cow*, Primer (Modern Music Series); *Laughing Rill* (sight reading), Primer (Modern Music Series). Game songs: *Here We Go Round the Mulberry Bush; Warm Hands.*

Manual Training: Making of large envelopes for paintings. Construction of looms.

Physical Training: (1) Anthropometry and examinations. (2) Sense tests. (3) Tests for nutrition.

Primitive games and sports, through which will be secured a correct standing position and positions for motor work. Prescribed work for individuals. Developmental gymnastics in classes.

References: *First Steps in Human Progress*, Starr; *Primitive Industry*, Abbott; *Primitive Culture*, Tylor; *Primitive Man*, Figuier; *Prehistoric Times*, Lubbock; *Aspects of the Earth*, Shaler.

Third Grade

Gertrude Van Hoesen

The work for the year will be a more analytical study of the child's environment than has been followed during the first two years in school. This work is based entirely upon the necessities, activities, and growing interests of the children. The study of city life with all that goes to make it desirable—a good city from every standpoint—is the subjective basis of the year's work. The requisites of a good city are worked out through the primitive or simple cities of the ancient Greeks to an understanding of the complex conditions surrounding the child in Chicago. It will be necessary at every point to use science to answer the problems of heating, lighting, etc., which come up during the year. All of the making will grow out of the necessities of the subjects studied, or those of the children, necessities which demand the use of the article made.

Geography:—Roads. Get the experiences of the children as to the different places they have been—in the country, mountains, seashore, or other cities. Why do so many people live in cities? Is there any reason for living in Chicago? If Chicago is a good city what must be considered? 1. Roads. 2. Drainage or sewerage. 3. Water supply. 4. Lighting. 5. Means of transportation. 6. Commerce. As good roads are one of the first requisites, study their evolution from earth to asphalt. 1. Natural. 2. Gravel. 3. Cobble. 4. Cedar-block. 5. Macadam. 6. Asphalt. In each case make tests which will answer the question of desirability. Make excursions to portions of the city where the roads are being improved, and to the Field Columbian Museum, where the models of some of the more complex are to be found. The children will make models of each kind as far as possible. The relation of expense will also be considered.

History and Literature: The Wanderings of Ulysses, with the background of the history of the Mycenæan Age, will form for the first three months the basis for the study of the early Greeks, with their primitive conditions and industries, and their simple cities.

The work will be taken up as follows: Story of Ulysses, beginning with the cause of the Trojan War.

1. Ulysses' home at Ithica.
2. Appearance and life of his friends.
3. Cause and preparation for war.
4. Journey to Troy.
5. Ten years' siege: principal scenes during the siege; story of the wooden horse.
6. End of the war. The beginning of the homeward journey.

The children will make a representation in miniature of the city of Troy, placing the Grecian army outside the walls. They will work out as far as possible the movements of the two armies.

Stories of heroism embodying ideals of courage, bravery and honesty, will be told throughout the year.

Mythical stories embodying some beautiful truths will be told in connection with the nature work. To arouse a deeper interest in and sense of comradeship with the animals of Lincoln Park, the *Jungle Books*, by Rudyard Kipling, and *Wild Animals that I Have Known*, by Ernest Seton Thompson, will be constantly used.

Nature Study: The October landscape will form the basis of the nature study for the month: 1. Trees. 2. Flowers. 3. Fruit. 4. Vegetables. 5. Insects. 6. Birds. 7. Rainfall. 8. Wind. 9. temperature. Preparation for winter: 1. Our preparation. 2. That of the vegetable kingdom. 3. Relation of temperature and wind to the changing landscape.

Seed disseminatlon. Preparation of plants for winter. Collection and classification of seeds according to their mode of distribution: 1. Wind. 2. Animals. 3. Water. 4. Self-sown. 5. Man.

Notice whether the plant sows its seeds singly by opening the pod, or in the pod as a whole.

How far do the different plants scatter their seeds?

How do we prepare for winter at home?

Classification of vegetables according to the part eaten. 1. Roots. 2. Stems. 3. Leaves. 4. Flower. 5. Fruit. 6. Seeds.

Constituents of fruits and vegetables: This grows naturally out of the drying of the fruit. Slice and carefully weigh 50 grams of apple for drying. When thoroughly dried re-weigh. How much has evaporated? Measure out the amount of water that has disappeared. What part of the apple is water? What part is solid matter?

Weigh out 5 grams of the dried apple and burn until all the carbon has disappeared. Weigh the ash. What part of the fruit is ash?

Compare the amount of water, solid matter, and ash, in the different fruits and vegetables.

Animals: Birds. What birds are to be seen in the park now? What are they doing? Begin making a collection of deserted nests. Keep records of birds by means of both painting and written expression, always leading the children to use the mode of expression best adapted to telling the story.

Do the same kind of work with the insects. Visit the animals in the Zoölogical Gardens of the park, noting characteristics, habits of eating, and movements.

Correlated Number: Only such number-work will be used as is necessary in the other subjects. The following will be required during October:

1. Number of seeds sown by the different plants.
2. Linear and square measure in connection with constructive work.
3. Linear and liquid measure and weight in connection with physical measurements.
4. The use of whole numbers and fractions in the comparison of constituents of fruits, and she weather, and sunshine charts.

Reading: *Fifty Famous Stories*. Selections from all sources correlated with the work.

Writing and Spelling: Records of all nature observations. Description of the different kinds of roads and directions for building them. Dramatization of stories in written form.

Language: Continued attention to clearness of expression in both spoken and written language. In the latter the correct use of capitals and necessary punctuation.

French: Correlated with sewing and geography. Hemming of towels for school use. Excursions to South Water Street, to purchase fruits and vegetables for the cooking classes.

During these occupations and excursions the French language will be exclusively used in directions and comments. (See outline for French, page 151.)

School Economics: Making general laws for the management of the room will be one of the first duties of the children. This will include the relation of the children to each other, and the care of the room.

Cooking—See Miss Cooke's Outline.

Art: Painting pictures of the landscape and individual trees. Painting and clay-modeling of fruits, vegetables, and animals.

The children will coöperate in making stencils of the scenes in history, to be used in decorating the room.

Industrial Art: Laboratory or modeling aprons; a dictionary.

Dramatic Art: Dramatic presentation of some of the stories connected with the Siege of Troy.

Training in hearing and reproducing English vowel sounds.

Poems to be studied and memorized: *The Tree*, by Bjornsen; *I'll Tell You How the Leaves Came Down*, Susan Coolidge.

Music: *Rain Song*, Primer (Modern Music Series); *Little Brother Johnny*, Reinecke, Fifty Children's Songs; *The Woodpecker*, Primer (Modern Music Series); *The Wind Song*, First Book (Modern Music Series); *The Oriole's Nest Song*, First Book (Modern Music Series); *Dainty Milkweed Babies;* Eleanor Smith's Songs, Part II.

Manual Training: As an outgrowth of the other work or the necessities of the schoolroom the children will make: 1. Painting stretchers. 2. Large envelope to hold work. 3. Seed envelopes. 4. Seed-labels. The third grade will saw off the boards to be used by the first grade as foundations for their houses.

Physical Training: Anthropometry:

1. Measurements and examinations.
2. Sense tests.
3. Tests for nutrition.

Rhythmical games through which the children gain poise and better control of body.

Traditional games.

Prescribed individual exercise.

Developmental gymnastics in classes.

Fourth Grade

Clara Isabel Mitchell

The outline for the fourth grade work will be planned from two standpoints, the first being that of the children and their activities; the second, that of the teacher and the subject-matter to be taught. The activities planned are those most natural to the children, and being common to the whole race are such as will relate them to the work of the world. They will include processes of wood-work, sewing, weaving, and cooking. The subject-matter to be given by the teacher in the form of lessons will be that demanded by the needs of the school community in its pursuance of these activities. By means of books, stories, descriptions, pictures, and discussions the children will be helped to interpret in a degree the conditions of their home and school life. It will be the aim of the teacher to test all subjects and methods according to their fitness for this end.

Cooking, as one of these activities, will include preparation and serving of some simple selected foods.

Weaving, spinning, sewing, and embroidery will be necessary processes in the making of various articles for use in the school.

Wood-work will furnish another means of fulfilling the needs of school life.

Elementary book-binding and decoration will extend throughout the year in the making of scrapbooks, portfolios, and simple bookcovers.

Entertainments will be given for the pleasure of younger children. There will be games, plays, and exercise in the gymnasium.

The children will have the care of the plants and animals brought into the school by themselves or the teachers.

Excursions into the city and surrounding country will be made for the purpose of seeing the continuation and development of these activities in the larger life of the community of which the school is a part.

There will be laboratory work as needed to explain problems arising in the pursuit of the activities of daily life.

Books will be used, stories, and descriptions with stereopticon, which are clearly a help in the immediate life of the schoolroom or home. Composition will be a part of the school life in the writing of original plays, stories, descriptions, records, letters, and notes whenever the needs of the children demand such expression.

Musical expression in singing will be a prominent and constant factor in the school life, the children making songs as well as singing by note, and listening to the best music that can be found for them.

Cooking: Children will discuss the methods of preparing fruit for the table, and will plan their own experiments in drying, baking, and steaming. They will prepare and serve one luncheon each week for the children of another class.

Weaving: The weaving will be done on simple frames constructed by the children in the manual training shop. Its motive will be the making of a curtain for use in the school. The work will be so arranged that all may contribute a part. Material will be heavy carpet yarn of good color woven into strips and sewed together with ornamental stitches.

Sewing: Sewing aprons will be designed, sewed, and ornamented with cross-stitch in colored cottons or linens.

Dyeing: Experiments will be made on cotton yarns with aniline and natural dye stuffs to

ascertain the most practical means of getting good and enduring colors suited to the embroidery of the aprons.

Wood-work: Simple looms, referred to under weaving, will be planned and made from model. (See page 145.)

Bookbinding: A portfolio necessary for preserving plans and papers will be made by each child for his own use. Materials used will be straw-board, vellum, and tapes.

Drawing and Painting: The children will be asked for pictures of only such stories and subjects as are sufficiently interesting to move them to free and enthusiastic expression. In all illustrations they will be allowed to choose their own mediums and will be encouraged to originality in work. Working drawings will be made of all articles constructed in any of the crafts.

Entertainment: The fourth-grade children will be responsible for the entertainment of the entire school for a period of twenty minutes one morning of the month. As the appointed morning happens to be Chicago Day, the exercises will be planned to fit the occasion with appropriate stories, songs, drawings, and quotations. The entertainment of other children in the primary grades will occupy an hour toward the close of the month and at that time the children will select such stories, experiences, songs, and incidents from the month's work as they think will prove interesting to their visitors.

Physical Culture: Children's physical measurements will be recorded on charts, and curves made. Sense tests also will be made with every child and tests for nutrition. Proper positions in standing and working will be watched for and encouraged in the school-room. Short periods of rest will be spent in games and plays. Individual and corrective gymnastics will be given in the gymnasium, also developmental class-work, with exercises in rhythm and games.

Field-Trips: Excursions will be made to a farm, a bake-house, the stockyards, wharves, South Water Street, a cotton-mill, social settlements, and, where practicable, to the characteristic colonies of foreigners. Field excursions are planned also to the Sand Dunes, to Winnetka, Waukegan, Beverly Hills, and a swamp region. Stereopticon pictures will be substituted for visits to the places which prove impossible of access.

Sociology: In discussing the people concerned in the work of the city the children will learn that many nationalities are represented in our population. Visits to the different industries and settlements of the city will give only a slight acquaintance with all these people, and therefore the knowledge gained by these means will be supplemented by stories—the best possible—of the lives, customs, and arts of the people both here and in their mother countries, pictures and geographical descriptions, stories from their literature, reproductions of their art, and biographies of their great men, all to the end of higher appreciation of their lives and better understanding of their value to the community.

Geography: The geography of the month will be the study of Lake Michigan as a force in building the land for the present city; its work in building and wearing will be observed at the Sand Dunes, Winnetka, and Lake Side, also at the old shore line as seen at Waukegan, and at Beverly Hills. The lake and river will also be studied as affording highways and harbors for commerce. In this connection are planned excursions to the wharves, and, if possible, to a lighthouse.

Nature Study: The lessons in Nature Study will be based upon the field trips, and will answer as nearly as may be the problems arising in the daily work of the children. As sociological pictures of Chicago are the special study of the month, the children's attention will be directed to the observation of weather conditions as influences in the life of people. The report of the United States Weather Bureau will be read daily, and individual observations of temperature, rainfall, direction of wind and cloudiness will be recorded in note-books. Further than this, there will be study of typical geographical areas of the region, with observation as to kinds of soil and characteristic plant life of each. Provision will be made for indoor, and if possible outdoor, experiments in growth of seeds and plants in the different soils—*i.e.*, sand, prairie-soil, swamp-soil, and garden-soil. Children will be encouraged to bring into school all the plant and animal life which can be properly cared for there, and this, with the animals visited at the zoölogical gardens, will be constantly observed and informally discussed.

Arithmetic: In cooking, fruits will be dried, and the dried fruits will be prepared for eating. These processes will make prominent the large proportion of water in the fruits. To measure this and gain a knowledge of recipes and quantities for cooking, a study will be made of ex-

act proportions. The familiar fruits will be weighed, dried, and reweighed to find loss by evaporation. Percentage will be taught here as the simplest means of expressing proportions.

Reading and Dramatic Art: Bits of characteristic literature, giving glimpses of the former national life of some of the people of the city, have been selected for the children's reading, or for telling to them. *The Tar Baby* will be told as a typical negro story, and the Siegfried myth will probably be dramatized as an aid to the comprehension of the Scandinavian peoples. In addition, stories will be selected from *Greek Folk-Lore* (Riverside edition), Scudder's *German Folk-Lore*, *Chinese Folk-Lore*, and the lives of Giotto, Fra Angelico, and Raphael.

French: Correlated with cooking. Making and serving of simple dishes. Memorizing and singing of *La Bergere*. During these occupations the French language will be exclusively used. (See Outline for French, page 151.)

Music: Chinese, German, Italian, Russian, and Greek lullaby songs will be taught by rote; also, *Foreign Children*, by Eleanor Smith, and *Sweet October*. Children will be encouraged in solo-singing, and will be asked to compose original text and music for their own little songs. These original compositions will be written for them, and will thus form the beginning of the study of musical notation.

Fifth Grade

Willard Streeter Bass

History: Subject—The Settlement and Early Industrial Development of New England.

New England an Important Source of the Present Population of Chicago: Ask children where the people they see around them came from, in particular, where the native "Americans" or their parents came from. Find how many of the children are descendants of people who came from Eastern states, in particular from New England.

New England: Describe the principal occupations and industries of New England, and show pictures of typical landscapes. Describe somewhat the land and the people.

First Permanent Settlement in New England: Show pictures of the Mayflower and the Pilgrims off Cape Cod. Describe the search for a place to found a settlement. Give reasons for the site finally selected. Draw a map of, or mold in sand, Plymouth and its surroundings, showing the good harbor, the slope already cleared by the Indians and the hills commanding views of the surrounding country and the sea.

Government of Plymouth Colony: Describe the fears for lawlessness and disorder which troubled the company on the Mayflower. Have children see how this led to the compact on the Mayflower, and to the election of a governor.

First Years of Plymouth Colony: Describe briefly the sufferings of the first winter, the relations with the Indians, including the treaty with Massasoit, the success of the first summer, and the anxieties of the next few years until the firm establishment of the colony.

Communism: Describe the system of common ownership of land and property employed at Plymouth, its causes and its effects. Discuss the reasons which led to its abandonment at Plymouth, and how the arguments which Governor Bradford gave against communism are applicable to present socialism. [See Hart, *American History Told by Contemporaries*, Vol I, pp. 352, 353.]

Reasons Why Puritans Came to New England: Tell of the formation of Separatist churches, of the opposition of James I. to them and his resolve to "harry them out of the land," and of the annoyances which led the congregation at Scrooby to emigrate to Holland and thence to America.

The Great Puritan Exodus: Tell of the attempt of Charles I. to govern without a parliament, and how great numbers of Puritans, fearing the loss of their political liberties, resolved to follow the pilgrims to America, and established a state in which they might secure their own civil and ecclesiastical institutions. Draw a map of New England showing the position of the various colonies and towns founded between 1629 and 1640.

Geography of New England: Study by means of pictures and descriptions the topography of New England, the character of the

soil, the rivers, the forests, the harbors, the water-power, the hills, bowlders, and glacial débris, and the climate. Consider what things will probably grow and what industries will be possible and profitable under such conditions.

Occupations and Industries of Colonists: 1. Agriculture. Have pupils reason about the great need for this industry, about what kinds of things will grow in New England, whether a staple product is possible, whether this will lead to large farms or small, and whether slave labor will be likely to prove profitable. 2. Manufactures: Show how the lack of any staple product for export makes great need for manufactures, and how the excellent water-power makes them possible. Notice how the uniformity of agriculture discourages trade and encourages home manufacture, and on the other hand that the tendency of the Puritans to settle in villages encourages trade; and note the early establishment of grist mills, tanneries, mills for weaving cloth, etc. 3. Fishing. Show that the conditions for this industry were so favorable that it soon furnished a leading export of the colony.

Homes and Family Life of Colonists: Show pictures of Fairbanks house in Dedham and other very old houses. Visit museums and examine colonial household utensils and furniture. Find out how the cooking was done and begin to learn the processes of spinning and weaving. Make a vivid word picture of an evening in a colonial home; show the occupations of each member of the family. Let the pupil attempt to draw or paint such a picture.

References:

For maps:

Drake, *The Making of New England*, pp. 77, 81, 156, 161.

Winsor, *Narrative and Critical History of America*, Vol. III, p. 272.

For history and government of Plymouth Colony:

Hart, *American History Told by Contemporaries*, Vol. I, pp. 344–349, 356–359.

For home and industrial life in the colonies:

Earle, *Home Life in Colonial Days.*

Howe, *The Puritan Republic*, pp. 130+; pp. 153+.

General references:

Fiske, *The Beginnings of New England.*
Doyle, *English Colonies in America.*
Lodge, *English Colonies in America.*
Eggleston, *The Beginners of a Nation.*

Children's Reading: Nina Moore, *Pilgrims and Puritans.*

Jane J. Austin, *Standish of Standish.*

Geography: Subject — Glaciers and glacial action about Chicago.

Study of the topography at Stony Island, Glencoe, and other places which show evidence of glacial action.

Preparation for field-work. Use of compass and clinometer.

Visit Stony Island. Observe general form of the hill. Measure the inclination on the north and the south sides. Notice the composition of the rock. Look for loose material, soil, and pebbles. See how the latter differ from the rock. Look for striations on rock and pebbles. Observe the direction of striations on rocks. Make a sketch of some characteristic portion of the hill.

Discuss data obtained at Stony Island. Model the hill in sand. Ask questions about the causes of the present conditions there. Write description of the trip and the place.

Visit drift areas in Glencoe. Observe the material of the drift and the forms in which it is left. Look for pebbles which show scratches.

Visit brickyards and other excavations in Chicago.

Discuss all data obtained together. Ask questions concerning causes of the above appearances.

Compare the topography and landscape about Chicago with that of New England as studied in history.

References:

Chamberlain, *Terminal Moraines of Second Glacial Epoch;* Third United States Geological Survey, pp. 295–482; Salisbury, *Geography of Chicago and Its Environs;* Wright, *The Ice Age in North America;* Lyell, *The Principles of Geology*, Vol. I, pp. 359–383; Tarr, *First Book of Physical Geography*, p. 294.

Nature Study: Preparation for systematic observation of the weather as a basis of determining its effect upon plant and animal life.

USE OF THERMOMETER.—Explain principle of thermometer and how it is read. Explain maximum and minimum thermometers. Have pupils take two daily readings from ordinary thermometer, and one reading from maximum and minimum thermometers.

USE OF RAIN GAUGE.—Take daily observations.

USE OF SKIAMETER.—Have pupils make a skiameter and measure the morning and noon elevation of the sun at least twice in the month. Measure the hourly change in elevation at least once.

DAILY WEATHER RECORD.—Keep daily weather record, using the color chart described in Jackman's *Nature Study in the Grammar Grades*, p. 37. Record the amount of sunshine, of cloudiness and rainfall, the temperature and the prevailing direction of the wind. At the end of the month compute the percentage of fair, cloudy, and rainy days of the whole number of days in the number of days in the month, and represent the percentages by rectangles of colored paper.

FROST.—Watch carefully for the first frosts. Notice the conditions under which they are formed, *i. e.*, temperature, clearness of sky, etc.

DISTRIBUTION OF SEEDS.—Visit typical areas, such as a hillside, the bank of a stream, a marsh, and woodland. Collect branches bearing seed-pods. Classify the seeds according as they have adaptations which favor their distribution by (1) wind; (2) water; (3) animals; (4) man. In the last two classes distinguish between edible and inedible fruits. When the seeds are classified mount them by sewing them upon stiff cardboard. Find the percentage of the seeds from each area which fall into each class.

EFFECT OF FROST UPON PLANTS.—Notice the frost upon (1) perennials, the coloring and fall of leaves, the opening of burrs, the fall of nuts, etc.; (2) upon biennials, the death of the upper part of the plant, and the life preserved in the fleshy root; (3) upon annuals, death of all the plant save the seeds.

References:

Jackman, *Nature Study in the Grammar Grades*, pp. 53–67; Lubbock, *Flowers, Fruits and Leaves*, pp. 52–72; Gage, *The Great World's Farm*, pp. 246–277; Kerner, *The Natural History of Plants*; Translated by F. W. Oliver. Half Vol. IV, pp. 833–878.

Number Work

From data obtained with the skiameter find: (1) the area of level surface covered at noon by a column of sunshine of unit cross-section; (2) the area covered at 8, 9, and 10 o'clock by the same column; (3) the ratio of the intensities of illumination in the four cases. Express this ratio as a per cent.

From the data obtained in the work on seeds find what per cent of the seeds studied are adapted for distribution by the wind; what per cent by water; what per cent attach themselves to animals; what per cent have the seed enveloped in an edible wrapping; in what per cent the seed itself is edible. Do the same thing with the seeds found on each of the typical areas studied, and compare the results.

From observations obtained with the rain-gauge compute the quantity of water in barrels and tons falling during a heavy rain upon: (1) a city block; (2) upon Lincoln Park (about 400 acres). Find the whole quantity falling during the month. Find out the average rainfall for October from the weather records, and compare the rainfall the present October with it. Express the result as a per cent.

From data in the weather record find the per cent of days in October which have been fair, cloudy, and rainy.

Languages

English: WRITTEN WORK.—A description of the trip to Stony Island and the appearances observed there, with suggestions for the causes which produced them.

A summary of the means by which seeds are distributed.

A summary of the results of the pupil's study upon the effects of frost upon plants.

Original stories of child life among the Puritans.

German: Training of the ear. Elements of reading and writing. Appropriate reading and writing exercises. (See Outline for German, page 154.)

French: Correlated with the distribution of seeds. Collections of seeds. Making of boxes for the collections. Stories: *How Potatoes Were Introduced into France; The Introduction of Tobacco into England.* All conversation during this hour carried on exclusively in French. (See Outline for French, page 151.)

Dramatic Reading: Study of manners, dress, and home life of the Puritan colonists.

Dramatization and presentation of historical and imaginary scenes in Puritan life. Conduct of a town meeting after the Puritan model.

Study of Longfellow's *Miles Standish*. Oral reading of some of its dramatic parts.

Training in the correct utterance of the vowel sounds.

Art, Arts and Crafts

Music: *Sweet October*, Second Book Modern Music Series; *Harvest Song*, Text by Chadwick; Songs of Life and Nature.

Characteristic Puritan Hymns:

Round, Second Book Modern Music Series.

Painting: Landscape, special study of change of colors due to action of frost. Rapid painting of seeds, showing structures which aid in their dissemination. Painting of branches bearing ripe fruit, showing color relation between leaves and fruit.

Modeling: Experiments in pottery.

Textile Art: Making Puritan costumes. Spinning of wool. Weaving of homespun.

Manual Training: Making of wooden frames to hold painting canvas.

Making of skiameter.

Beginning of the construction of a colonial loom.

Physical Training: Fundamental gymnastics, games, plays, and recreation in and out of doors. Measurements, physical examination, sense tests, and fatigue tests.

Sixth Grade

Edith B. Foster

History: The subject for the month is CHINA.

The study of China will appeal strongly to the interest of the children because of the present troubles in that country. The aim at the outset will be to make the people and life of the far-away place real to the children through its relation to the life of the Chinese in Chicago and in America, — a matter of which they have a little first-hand knowledge. To the end that they may collect and relate their present unorganized information, various questions will be asked, somewhat as follows:

What do you know of the Chinese in Chicago? In America? Describe the appearance and dress of a Chicago Chinaman. (A composition may be written in this connection and illustrated by the pupil.) Have you ever seen Chinese writing? Where? What was it like? What are the principal foods of the Chinese? What do we get from China? What are the occupations of the Chinese in Chicago? Where do they live? Do they mingle with the white people? Where is the largest Chinese population in the United States? Why did so many Chinese come to this country? What is the attitude of Americans toward them? How have they expressed that attitude? How do you account for this attitude?

After this present knowledge has been organized and expanded, the work will proceed upon the following plan:

I. What have you read about China in this week's newspapers?

II. How do America and Europe come to be involved with China? A. The missionaries; B. The embassies.

III. Why are the nations enough interested in China to send embassies? A. Value of Chinese products. 1. Rice, tea, silk, opium, lacquered ware, porcelain.

IV. Reason for diversity of products: A. The country has great extent in latitude. 1. The coast line from the north of the Yalu in Corea to that of the Annam in Cochin-China is nearly 4,400 miles. B. The topography of the country is extremely varied. 1. Delta region. 2. Great plain. 3. Mountain regions.

V. Difficulty of establishing relations with the Chinese: A. Exclusiveness of the people, caused by — 1. Fertility of their soil. This enables them to get along without help from outside their own borders. The fields in the loess have probably been cultivated continuously for over 2,000 years, and yet yield two and three crops a year. 2. Mountains, sea, and deserts

surrounding. These features have preserved the Chinese from attacks. 3. Early development of literature. The Chinese written language is of a sort very difficult to translate. It has been hard to tell about other languages in it, and difficult for foreigners to learn it. (Use of "pigeon-English" in trade.) 4. Method of education. Education in China consists almost solely of drill — memory-work — in the Chinese classics, and in the practice of Chinese composition. The physical sciences and the history and customs of other countries receive no attention whatever. B. The civil-service examinations.

VI. The people. A. Geographically of two sorts. 1. From mountains (Manchus.) 2. From plains (Chinese proper.)

VII. Social life of the people. A. Walled cities. 1. Crowding in cities. B. Necessary simplicity of life. 1. Food of a Chinese family. C. Danger of famine. 1. Drought. 2. Means of transportation defective. (a) Slow. (b) Small loads.

Hand Work: Making of Chinese costume.

Number Work: Ratio between size of China and population; number of Chinese in Chicago; proportion to rest of population; proportion of Chinese in United States; comparison of areas of plain, delta, and mountain regions of China; comparison of areas of China and United States; comparison of Pekin and Chicago in size and in population; comparison of cost of living here and in China; problems in connection with duties.

Art-Work: Study of Chinese embroideries at Art Institute; study of Chinese design; study of Chinese architecture; sketches of Chinese people and objects as seen in Chinatown.

Dramatic Reading and Expression: Study and interpretation of poem on China; debate on Chinese question; study of dress, manners, and customs of China; dramatic presentation of life in Chinese school; training on vowel sounds, enunciation, and pronunciation.

Music: Chinese folk-song and hymn.

References: *The Middle Kingdom*, S. Wells Williams; *The Middle Kingdom*, Wilson; *Short History* of China, Boulger; *Historic China*, Giles.

Nature Study: The subjects for the month will be, broadly, the preparations of plants for the winter, with especial emphasis on seed-distribution and study of the weather. Wherever the subjects of plant-life and weather are closely related they will be studied together. The use of United States weather maps will continue throughout the year.

Plant Life: A. How it is affected by the weather at this season: 1. By temperature. (Use of thermometer). Extremes of daily temperature: when they come and what they are. Daily average temperature. Effect of temperature on colors of landscape. 2. By rainfall. (Use of rain-gauge and barometer). 3. By clouds and cloudiness. Appearance of plants on cloudy days. 4. By humidity. (Use of hygrometer). 5. By winds. 6. By fogs, frost, and dew.

B. How it is affected by distribution of sunshine. Length of days and nights at this season. (Use of skiameter).

C. Its special problem at this season: to prepare for winter. 1. Kinds of preparation: (a) Shedding of leaves, (b) Withdrawing of juices. (c) Distribution of seeds.

Distribution of Seeds: A. What are seeds? 1. With what vegetables are you familiar? Fruits? What part of the plant, in each case, do you eat? How does your eating of the fruit further nature's plans?

B. Necessity for seed-distribution: 1. Overcrowding. (*a*) Insufficient sunlight. (*b*) Exhaustion of the soil. 2. Benefits of cross-pollination.

C. Means of seed-distribution: 1. By wind, as favored by. (a) Height of plant. (b) Shape of fruit. (c) Weight of fruit. (d) Special appendages: (1) Wings. (2) Down. (e) How far may seed be transported in this way? (f) What plants that you know distribute their seeds in this way? *Examples:* Dandelion, milkweed, maple, ailanthus, thistle, cat-tail.

2. By water as favored by. (a) Buoyancy of seeds. (b) Location of plant. (c) What plants that you know distribute their seeds in this way?

3. By plant itself. (a) By motion of whole plant. *Example:* Tumble weed. (b) By special apparatus. *Example:* Witch-hazel; squirting cucumber.

4. By animals: (a) Animals use fruits and seeds as food. (*a*) The color of the ripe fruit attracts. (*b*) The odor and flavor of the ripe fruit attracts. (*c*) The teeth, gizzard, etc., of certain animals are such as to leave the seed intact. (b) Animals transport seeds in their coats and on their feet and legs. (*a*) Wool of

sheep: burs. (*b*) Feet of wading birds: Darwin's experiment.

5. By man: (a) Men use fruit and seeds as food. (*a*) Seeds usually thrown away. (b) Men ship cattle, sheep, pigs, and grains. (*a*) By trains. (*b*) Along roadways.

Hand-work: Making of hygrometer and skiameter.

Number-work: Comparison of rainfall this month with average for October; by proportion, fractions, and decimals. Calculation of humidity. Calculation of number of seeds produced on a given plant and in a given area.

Painting: Landscape calendar.

Writing: Reports on field-trips and on special subjects connected with the work.

French: Correlated with Nature Study. Study of temperature, rainfall, frost, and dew; effect upon vegetation. The use of French idioms will be introduced in this connection. Making of French calendars for the use of the school, work to be continued from month to month. A French song on the seasons will be taught. (See Outline for French, page 151.)

German: Declension of substantives with adjectives. Appropriate reading and writing exercises. (See Outline for German, page 154.)

Latin: Roman life studied through the Latin language. The pupils will learn the Roman way of expressing an idea, and will themselves express simple ideas about Roman life. Latin grammar will be used only as an aid to the thought. Reading and translation into Latin will be a part of every lesson. These reading lessons will be printed each month. (See Outline for Latin and Greek, page 148.)

Music: *Sweet October* (second book, Modern Music Series). *Harvest Song* (Songs of Life and Nature). Note songs. Beginning of sight reading.

References: 376, 44J12n, Jackman, *Nature Study and Related Subjects;* 581, C85, Coulter, *Plant Relations;* 580, G28, Gage, *The Great World's Farm;* 551, M64, Mill, *The Realm of Nature.*

Gymnastics: Fundamental gymnastics. Games and plays. Recreation in and out doors. Measurements; physical examination. Sense tests; fatigue tests.

Geography: The subject for the year will be Eurasia and Africa. The subject for the month will be COAST LINES.

This subject is related to the immediate interests of the children through the fact that they live on the shore of Lake Michigan. During the first period an attempt will be made to get the class to collate their present scattered knowledge bearing on the location of Chicago, its harbor facilities, and the obvious aspects of the lake shore. In this way their minds will be prepared for the visit to the lake shore to be made the next day. During this visit the children will observe, under direction, the phenomena of the shore. They will note the width of the beach, the presence or absence of inlets, the streams flowing into the lake and the material they bring down, the height of the bluffs and their composition, the action and force of the waves, shore drift, and evidences of shore currents, the building and wearing beaches on the north and south sides of piers. On their return, each child is to write a report illustrated with sketches of what he has seen, to help him to organize his knowledge and to furnish information for others. This will be followed by a recitation on what they have seen and by criticism, by both class and teacher, of reports and sketches.

From then on the study will follow the appended plan:

I. Agents doing work on shores:
   A. Waves.
   B. Shore currents.
   C. Streams.
   D. Atmospheric agents.
   E. Tides. (A brief reference only, until the subject of sea-coasts is reached.)

A. Wave work: Cause of waves. (Experiment with bowl of water and pond.) Motion of particles in a wave. (Experiment with rope tied to door knob and shaken, to show that the wave impulse, not the water, travels.) Carrying power of waves. (Experiment with sand, pebbles, and hose.) Force of waves. (Picture in Farr's *Physical Geography*, page 177.)

B. Shore currents (of Lake Michigan). Causes. Effects. (Transportation.)

C. Streams: Deposition of material. Effects: Changing shape of coasts. ("Banks" of North

Carolina.) Deltas. (Mississippi, Nile. Make deltas with hose.)

D. Atmospheric agents: Wind: Dunes. (Visit Dune Park.) Frost. Weathering.

II. Features made by these agencies:

A. Beaches. (South shore of Martha's Vineyard; picture in Shaler's *Outlines of Earth's History*, p. 120.)

B. Cliffs. (Grand Manan, New Brunswick; picture in Tarr's *Elementary Geology*, p. 230, and in Davis's *Physical Geography*, p. 348; Shakespeare Cliff, near Dover; picture in Shaler's *Sea and Land*, p. 5. (See also scenes in Shakespeare's *Lear*, Act IV., scene VI.; Barra Head, Hebrides, picture in Shaler's *Sea and Land*, p. 22.)

C. Terraces.

D. Bars.

III. Ways in which these agencies have made these features:

A. Erosion—Agent: Water carrying solid matter. Power of this agent shown by history of Heligoland. (See diagram and picture in Tarr's *Elementary Physical Geography*, p. 322. of Reculver in England); see Huxley's *Physiography*, p. 170; picture of Roman castle at mouth of Rhine (Davis, p. 354).

B. Transportation—Agents: Waves, currents, tides, effects.

C. Deposition: Conditions necessary for deposition. Results: Deltas, bars, hooks, spits, etc. Tendency of coast lines to become regular.

IV. Coast lines of North America:

Typical indented coast: Maine. (See maps and pictures.) Typical regular coast: Texas. (See maps and pictures.)

V. Glaciers and glaciation:

Their effects on coast lines.

VI. Rising and sinking of land:

Their effects on coast lines. Sunken region—Fjords of Norway—(Sogne Fjord, north of Bergen.) Risen Region—coast about Buenos Ayres.

VII. Effect of different coast lines:

On commerce and hence on people. Harbors.

Handwork: Making of clinometer.

Number-work: Comparison of height of bluff and width of beach. By proportion. By fractions. By decimals. Calculation of amount of material brought down by a given stream in a given time. Calculation of size and volume of deltas. Comparison of coast lengths. Proportion of coast lines to areas.

Drawing: Chalk-modeling and pastel-modeling of maps. Sketches of beach scenes on Lake Michigan.

Writing: Reports of field-trips and on special topics connected with the work.

Dramatic Reading: King Lear, Act IV., Scene VI. (Dover Cliff); *The Forsaken Merman*, Matthew Arnold.

Music: *Sea Horses.* (Second Book. Modern Music Series, with *Suggestive Studies*); *September Gale* (Songs of Life and Nature.)

Coast Lines.

CHILDREN'S LIST.

551, D26, Davis, *Physical Geography;* 551, H46, Heilprin, *The Earth and Its Story;* 551, H98, Huxley, *Physiography;* j917, K52, King, *Geographical Readers*, Sixth Book; King, *Geographical Readers*, First Book; King, *Geographical Readers*, Fourth Book; 551.46, R29, Réclus, *The Ocean;* 551.4, S52, Shaler, *Sea and Land;* 551, T19, Tarr, *Elementary Geology;* 551, T19, Tarr, *Elementary Physical Geography;* 551, T19, Tarr, *First Book of Physical Geography.*

Reference Books.

Dyer, *Studies in Indiana Geography;* 551, G31, Geikie, *Earth Sculpture;* 550, G31, Geikie, *Fragments of Earth Lore;* Gilbert, *Lake Bonneville* (United States Geological Survey Monographs); Gulliver, *Shore Line Topography* (proceedings of American Academy of Arts and Sciences, January, 1899, pp. 151–258); 910, M64, Mill, *International Geography*, Appleton, 1900; *Physiography of the United States* (ten monographs by Powell, Shaler, Russell, Willis, Davis, Gilbert, A. B. C., 1898). Salisbury, *Geography of Chicago and Its Environs; United States Geological Survey*, Fifth Annual Report; Willis, *Conditions of Sedimentary Deposition* (*Journal of Geology*, Vol. 1, p. 476).

Seventh Grade

Katharine M. Stilwell

Geography: The class will visit Dune Park or Miller's Station. They will observe:

I. Topography of the country between here and Dune Park as seen from the car windows.

II. Topography of Dune Park and Miller's Station. At Dune Park they will walk south of the railroad tracks, noting the hills and depressions, their height, distance apart, soil, and vegetation.

They will then go northward to the lake making similar observations. They will measure the inclination of the slopes (using clinometers they have made of cardboard); note the shape, size, composition, and arrangement of the materials in the dunes; observe the work of the wind to-day in the formation of new dunes, the vegetation of the different slopes and the animal life.

At the lake shore they will measure the width of the beach, and watch the work of the waves.

At Miller's Station, in addition to these observations, they will watch the formation of bars, spits, and lagoons. They will collect specimen plants and soil on the ridges, in the depressions, and in the water, and photograph the most interesting features.

The subject will be continued in the class-room. The observations and collections of the children will form the basis of the discussions, which will be supplemented by pictures and reading.

The following topics are suggested as some of those in which the children may be interested:

1. The Chicago plain.

Its appearance and extent. Agents that have affected it.

2. How dunes are made.

Spits, bars, and lagoons.

3. Source of the sand.

Relation to wind.

4. Relative age of these dunes.

Their movement. Proofs.

5. Is the lake advancing or receding? Proofs.

6. What vegetation is found in the various regions?

Why does it differ?

What evidences of adaptation may be seen?

Evidences of earlier vegetation? What is the effect of swamp vegetation on the existence of the swamp? How are these plants distributed?

7. Compare the swamp forms of animal life with the forms of life found on the dunes.

Study their peculiarities of structure and their relation to vegetation.

8. Use of dunes.

Of what use is this region to man? How can it be modified? Effect of dunes in other countries. The Landes, Holland.

9. Deserts.

Appearance of surface. Character of vegetable and animal life. Industries and homes of man. Cause of deserts. Their structure, relation to wind and to bodies of water.

10. The Sahara.

References: *Chicago and Its Environs.* Geographical Society Bulletin. *Ecological Relations of the Vegetation on the Sand Dunes of Lake Michigan.*

Grain from the farm to the shipment.

j600, C48, Chase & Clow, *Stories of Industry*, v. 2, p. 82–99; 660, J72, Johnston, J. F. W., *Chemistry of Common Life*, p. 68–79; j917, K52, King, C. F., *Land We Live In*, v. 4, p. 155–58.

Swamps (description, vegetation, animal life).

550, H56, Herrick, S. B., *Earth in Past Ages*, p. 73-85; j590, J73, Johonnot, J., *Glimpses of the Animate World*, p. 142-63; T550, L46, Le Conte, J., *Compend of Geology*, p. 75-79; 551, T19, Tarr, R. S., *Elementary Geology*, p. 190-92; 551, T19e, Tarr, R. S., *Elementary Physical Geography*, p. 303-4 and p. 339-40; 508.3, T48, Thomson, C. W., *Voyage of the Challenger*, v. 1, p. 340-1.

Deserts (appearance, vegetation, animal life).

581, C85, Coulter, J. M., *Plant Relations*, p. 221-3, 255; 550, D16, Dana, J. D., *Manual of Geology*, Ed. 4, p. 50-51 and 160-61; 580, G28, Gaye, S., *Great World's Farm*, p. 98-9 and 105-23; 551, M36, Marsh, G. P., *Earth as Modified by Human Action*, p. 529-36 and 572-5; 551, M64, Mill, H. R., *Realm of Nature*, p. 312-3; 916, W58, White, A. S., *Development of Africa*, p. 61-63.

Sahara.

916, K24, Stanford's Compendium, v. 1, p. 171-242; 916, W58, White, A. S., *Development of Africa*, Ed. 2, p. 12-18, 55-56, 76 and 172.

NATURE STUDY: I. Our climatic conditions. Daily reading of thermometer and barometer.

Find weekly average of temperature, and trace this isothermal line on the United States weather map.

Compute the amount of moisture in the school room. Compare with the required per cent. Observe the amount of rainfall for the month, and represent by cardboard modeling. Compare this with the United States reports. Make monthly observation (measure), of time and place of sunrise and sunset, and position of sun at noon.

These observations will continue throughout the year, and will form the basis for study of changes in the landscape.

II. Adaptation of life to climatic conditions.

1. Disappearance of animal life; ants' nests, cocoons, etc.

2. Distribution of seeds.

(a) Uncultivated plants. Different pupils may select for study plants in typical areas, such as swamp, prairie, and the sand-dunes. Their observations will be compared, and the relation of structure to distribution determined.

(b) Cultivated plants. The grade will visit a farm and observe the processes of harvesting and threshing. They will learn how grain is prepared for shipment, where it is shipped, and the cost. They will locate the grain areas of the United States and of the world, and the areas of other articles of export.

They will compare the size of these areas, the value of the produce, and the cost of the production, and will find out what determines the market value of these articles.

References: *Life Histories of Plants*, Kerner & Oliver; *Fruits, Flowers, and Leaves*, Lubbock; *Agricultural Year Book, '96; Album of Agricultural Graphics; Trade Centers*, Chicago Record; *Great World Farm*, Gaye; *Handbook of Commercial Geography*, Chisholm; *Insect Life*, Comstock.

Adaptation of life to climatic conditions:

551.5, Ar6, Archibald, D., *Story of the Atmosphere*, p. 183-90; 580, G28, Gaye, S., *Great World's Farm*, p. 177-89; 551.5, H31, Harrington, M. W., *About the Weather;* 551, M64, Mill, H. R., *Realm of Nature*, p. 334; 573, T67, Topinard, P., *Anthropology*, p. 385-98.

Disappearance of animal life:

591.9, H46, Heilprin, A., *Geographical and Geological Distribution of Animals*, p. 181-233; 550, H56, Herrick, S. B., *Earth in Past Ages*, p. 206-29; 566, H97, Hutchinson, H. W., *Creatures of Other Days;* 590, T48, Thomson, J. A., *Study of Animal Life*, p. 206-7; 591.9, W18, Wallace, A. R., *Geographical Distribution of Animals*, v. 1, p. 157-66; 591.9, W18i, Wallace, A. R., *Island Life*, Ed. 2, p. 55-71; 575.4, W18, Wallace, A. R., *Natural Selection and Tropical Nature*, New ed., p. 177-8.

Distribution of seeds:

581, B26, Barnes, C. R., *Plant Life*, p. 352-68; 581, C85, Coulter, J. M., *Plant Relations*, p. 112-22; 581, D16, Dana, Mrs. W. S., *Plants and their Children*, p. 52-73; 580, G28, Gaye, S., *Great World's Farm*, p. 246-76.

Roman History: 1. By the use of pictures the class will spend a day in Rome.

2. A visit to ancient Rome.

What we should see.

3. Geography of Rome.

Map and pictures. Influence of its location on its history.

4. Origin.

The traditions. Their historical value.

5. The people.

Their occupations, dwellings, furniture, dress, home life.

6. Organization of the community.

a. Society, tribe, brotherhood, family. b. Political assembly, king, council.

7. Influence of the Etruscans.

References.

CURRENT HISTORY.

The Great Round World; Outlines of Roman History, Pelham; *Rome*, Mommsen; *Constitutional and Political History of Rome*, Taylor; *Epochs of Ancient History; History*, How and Leigh; *History*, Ihne; *History*, Creighton; *Story of the Nations*, Gilman; *Roman Antiquities*, Wilkins; *A Day in Ancient Rome*, Shumway.

ROMAN HISTORY AND GEOGRAPHY.

937, Ih2, Ihne, W., *Early Rome*, p. 4-9; 913, K47, Kiepert, H., *Manual of Ancient Geography*, p. 209-56; 937, L52, Leighton, R. F., *History of Rome*, p. 1-9; 937, L86, Lord, J., *Old Roman World*, p. 71-99; 910.9, T75, Tozer, H. F., *History of Ancient Geography*, p. 216-37 and 293-312.

PEOPLE.

(Including occupations, dwellings, furniture, dress, home life.)

1938, F19, Falke, J. von, *Greece and Rome*, p. 215-89; 937, L52, Leighton, R. F., *History of Rome*, p. 385-415; 937, L86, Lord, J., *Old Roman World*, p. 402-35; 913.377, M44, Mau, A., *Pompeii*, p. 239-73.

Oral Reading and Dramatic Art: Study and oral reading of *Horatius at the Bridge*, Macaulay. Writing a delivery of an oration on the land laws of early Rome. Study of the costumes worn by the early Romans. Training upon the English vowels enunciation and pronunciation.

Manual Training: Class will make stretchers for use in the primary grades.

Art: Drawing, painting, and modeling will be used in the study of seeds and of the sand dunes. The home life of the Romans will be illustrated.

Mathematics: Number will be used as indicated in the plans of the other subjects. Generalized number will begin with simple lessons in algebraic language, using the problems that arise in the other subjects.

Textiles: Study of homespun in the Roman dress. Weaving.

Physical Training: Fundamental gymnastics; games and plays; recreation forms, indoors and out-doors; measurements, physical examination, sense tests, fatigue tests.

German: Conjugation of regular verbs. Appropriate reading and writing exercises. (See outline for German, page 154.)

French: Correlated with Geography and Nature Study. Painting of autumn landscapes and flowers for the use of the children in the sixth grade who are making calendars. Study of the Chicago and Joliet rivers, introducing stories of La Salle, Marquette, and Lafayette. These stories may be dramatized.

Latin: Study of Roman history and character. Stories from the easier Latin authors. Reading at sight from the following stories from Aulus Gellius: I, 9; IX, 13; IX, 2; III, 8; IV, 8. References: Harper's Classical Dictionary on *Tarquinius Superbus Sibyllæ, Manlius Torquatus*, and *Fabricius*. Smith's Dictionary of Biography and Mythology, on *Torquatus, Corvus, Luscinus*. Ihne's *Early Rome*, Chapters 1–9. Mommsen's *Rome*, Book I, 1-5; Book II, 4. Macaulay's *Horatius at the Bridge*.

Music: *Harvest Song*, Text by Chadwick, from Songs of Life and Nature; *Mill Song*, I. Reinecke; *September Gale*, Eleanor Smith; *The Happy Farmer*, with the study following, Modern Music Series, Third Book.

Eighth Grade

Nott William Flint

The history of the United States studied from a social point of view will be the work for the year. With this aim the class, during October, will consider the social history of Chicago.

A. Study of Chicago as it is now (large map of city).

1. Plan of city, streets, and waterways.

2. Transportation system.

(a) Business center. (b) Trade districts. (c) Residence districts. (d) Suburbs.

3. Economy of city.

Departments: (a) Street cleaning. (b) Police. (c) Fire. (d) Water: water-works; drainage canal; cribs; pumping stations. (e) Lighting. (f) Finance. (Subject of taxation will be but lightly touched on here.)

4. Æsthetic and educational sides of city life.

(a) Schools: public, private, and technical. (b) Museums, art galleries, and libraries. (c) Park system. (d) Architecture.

B. The study of Chicago architecture will bring up the questions, "What is beautiful architecture"? "What are the architectural ideals in Chicago"? And these questions will introduce the World's Fair as an æsthetic stimulus in Chicago life. Since the children will, for the most part, be able to recall the Fair, they can study it from pictures and from memory.

C. The study of architecture will also bring up the question, "Why may no wooden houses be built within the city limits"? The city ordinances will, of course, be cited for answer. And in seeking the cause of these ordinances the children will be led back to the great fire. The inadequacy of the fire department at that time and the question of what the fire did for Chicago will be considered.

D. During this study the class will have noticed that Chicago has grown territorially as well as in the number of inhabitants. There will be a large map of the city which the children will study. From this map the children will obliterate the various territorial accretions in order, taking the latest one first, until they have stripped the city map to one spot — Fort Dearborn. The Fort Dearborn massacre and the early settlement of Chicago will complete the study for the month.

References: Studies in the History of Chicago to be found in the library of the Chicago Historical Society.

Historical Studies of Chicago, published in a series of the Chicago *Sunday Tribune*. Any good history of Chicago.

Dramatic Reading: Writing and delivery of an oration on Chicago. Oral readings from the Cliff Dwellers. Training in English vowels and consonants; in enunciation and pronunciation.

Number Work: Percentage of population of each foreign nation calculated for each of the census years. (Figures taken from United States Census Reports.)

Number of people to square mile in Chicago in each of the census years.

Ratio between populations of North, West, and South sides in each ten years.

Ratio between areas of North, West, and South sides in each ten years.

Handwork: Making of maps of Chicago.
Modeling of a miniature Fort Dearborn.
Drawing of plan of the city.

Nature Study: During October the central idea will be the study of plants for winter, and in relation to this the observation and interpretation by the student of weather conditions. Each pupil will keep a daily record of temperature, and barometric and hygrometric readings. In

making the hygrometer, the skiameter, and any other apparatus for the room, the students will correlate their manual training. Number work will come through the student's calculating the amount of rainfall over a given area, the percentage of humidity in the atmosphere on a given day, and the number of seeds in a given plant. Records of experiments, descriptions of landscapes, a story of the journey of a thistle-down, or tumble-weed, will bring in written work. The artistic expression will come in the painting of characteristic landscapes, of special plant forms, and of seeds.

A. Plant life.

1. Preparations for winter: (a) Our preparations for winter. Preparations of plants for winter. What eatable plants are you familiar with? What becomes of parts we do not eat?

2. Plant life as affected by weather.

(a) Temperature (use of thermometer; keeping of daily records).

(b) Rainfall (use of barometer and rain gauge).

(c) Humidity (use of hygrometer).

(d) Clouds and cloudiness.

(e) Winds (what are prevailing winds? rain winds?).

(f) Fog, frost, and dew (protection of plants against these conditions).

3. Plant life as affected by sunshine.

Use of skiameter. (a) Length of days and nights at this season.

4. Seed distribution.

1. By wind. 2. By water. 3. By plant itself. 4. By animals. 5. By man.

5. Other preparations of plants for winter.

References for Nature Study: *Nature Study and Related Subjects*, Jackman; *The Great World's Farm*, Gaye; *Plant Relations*, Coulter; *Realm of Nature*, Mill; *Little Wanderers*, Morley; *Seed Travellers*, Weed; *Plants and Their Children*, Dana; *Text-Book of Botany*, Strasburgher, Moll, Schenck and Schimper.

Geography: The subject for the month will be RIVER BASINS.

I. Question the children to find out all they know about rivers. What is a river? Difference between river and canal? Between river and lake? Describe the rivers you have seen. How were they made? Of what use are rivers to man?

II. What rivers flow into Lake Michigan? (see large map of Northwestern States). Influence of Chicago River on Chicago; why are Chicago and Milwaukee larger cities than Evanston and Waukegan?

III. Field trip to Glencoe, where a typical gully may be studied. Children will make a river in the laboratory, and actually see all the phenomena of the river. Illustrated reports of what they see.

IV. Birth of river valley.

(To be worked out in Laboratory).

A. Rainfall on surface of land. 1. Part evaporates. 2. Part sinks below surface. 3. Part flows off over surface.

B. What determines amount of water flowing off the surface?

1. Slope. 2. Porosity of rock. 3. Rate of precipitation.

C. Concentration of water in run-off.

1. Unknown surface. 2. Different texture of surface.

D. Formation of wash or gully.

1. Gully grows in length, breadth, and depth. a. Develops all the way down, but fastest at bottom. Why? b. In breadth by side-wash, gravity, and sapping. c. Deepened by effort of water to get to lowest point, first at mouth of stream, then backward.

E. Limits of growth.

1. Length—extent of land. 2. Breadth—extent of land. 3. Depth—base-level. (Distinction between gully, ravine, and valley.) (Distinction between channel, valley, and basin.)

F. Stages in development of valley.

1. Infancy. (In Laboratory.) 2. Youth: St. Lawrence, Red River of North. 3. Maturity: Mississippi. 4. Old age. Cycle of erosion is what?

V. Rivers of the globe.

1. Rivers flowing through cañons: Colorado, Columbia, Arkansas, Hudson, Niagara.

2. Rivers with deltas and flood plains:

Mississippi, Nile, Yellow, Ganges, Po, Rhone, Rhine, Danube.

3. Rivers in mountainous regions:
Durance, Loire, Green, Grand, Kootenai.

VI. Effect of rivers on civilization.

Materials: Pictures from the library, sand, and sand-pans. Painting, drawing, and writing material.

Expression: Sketches of various kinds of river valleys. Sketch of whole river system. Model of river valley in sand. Making of river in laboratory.

Painting: Landscape calendar. River basin. Glencoe. Cañon. Making of picture books to illustrate life of foreign children in Chicago. These books will be made for the use of the fourth grade.

Textile Art: Embroidery of hangings for textile room.

Music: *Corn Song*, text by Whittier; *The Brook*, text by Tennyson; *Harvest Song*, text by Chadwick; *September Gale*, Songs of Life and Nature.

These songs will be taught partly by rote and partly by independent sight-reading.

Physical Culture: Fundamental gymnastics. Games and plays for recreation in and outdoors. Measurements. Physical examination. Sense tests; fatigue tests.

German: Distinction between principal and accessory sentences. Appropriate reading and writing exercises. (See German outline, page 154.)

French: Correlated with study of water and waterways. Study of Chicago River and the water-shed at Oak Park. Excursions to Oak Park and the Desplaines River. The Drainage Canal; its function; possible effect upon the commerce of Montreal. The High School pupils will present to this class, in the form of reading matter, any interesting information they may have collected in a visit to a French village near Kankakee. (See page 151.)

Latin: Roman ideals in relation to early French and German history. Cæsar's Gallic War, Book I, 1, and II, 1-8. References: Harper's Classical Dictionary on *exercitus*, *legio*, *castra*, *Cæsar*, *Gallia*, and *Germany*. The Encyclopedias on *Germany*, *France*, and *Cæsar*. Froude's *Cæsar*, Chapters 1-8 and 14. Warde-Fowler's *Cæsar*, Chapters 1-8. Guhl and Koner's *Life of the Greeks and Romans*, Section 107.

Greek: See outline on Latin and Greek, page 148.

References for Teachers:

Abbott, *Water and Land;* Brown, *Geology;* 910, C541, Chisholm & Leete, *Longman's School Geography;* Encyclopædia Britannica; 557.92, Un5, Gilbert, *The Henry Mountains;* 551, H98, Huxley, *Physiography;* 376.45, P23, Parker, *How to Study Geography;* 551, R29, Réclus, *The Earth;* 551, S52, Shaler, *Outlines of the Earth's History;* 551, T19, Tarr, *Physical Geography.*

References for Children.

550, B61, Bird, *Geology;* 551, D26, Davis, *Physical Geography;* 551, H46, Heilprin, *The Earth and Its Story;* 551, H98, Huxley, *Physiography;* 501, L92, Lubbock, *Beauties of Nature;* 551, R64, Roberts, *Earth's History;* 551, S52, Shaler, *Outlines of the Earth's History;* 551, T19, Tarr, *Elementary Geology;* 551, T19, Tarr, *First Book of Physical Geography.*

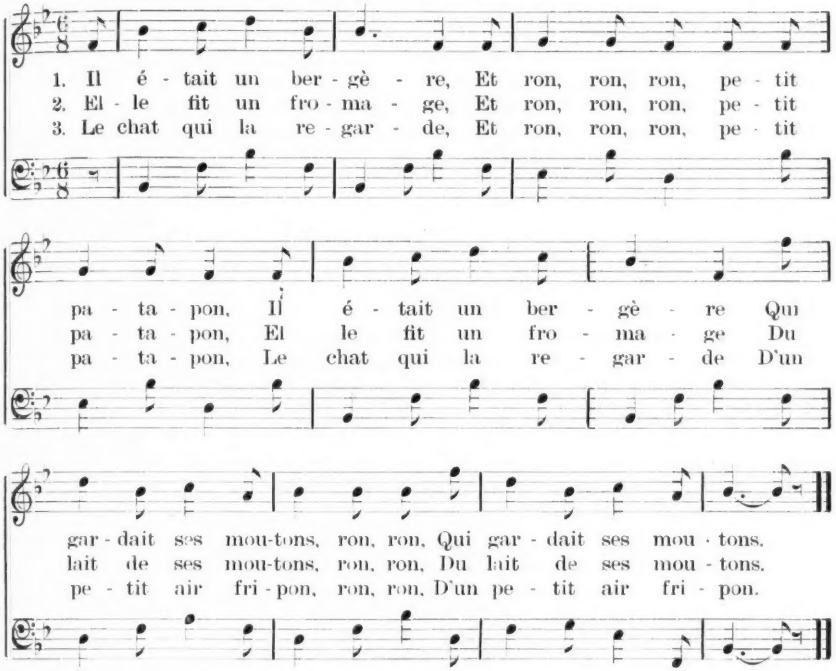
Morning Exercises

OCTOBER.	SUBJECT.	LEADER.
1.	Helpfulness	Colonel Parker.
2.	Favorite Quotations	Miss Fleming.
3.	Vacation Reports	Miss Van Hoesen.
4.	Science Observations	Miss Cooke.
5.	Summer Pictures	Miss Stilwell.
9.	Chicago	Miss Mitchell.
10.	Current History	Miss Rice.
11.	October	Miss Van Hoesen.
12.	Folk-Songs	Miss Goodrich.
16.	Our Neighbors in Lincoln Park	Miss Hollister.
17.	Fall Coloration of Plants	Mr. Myers.
18.	Rivers in Poetry and Song	Miss Stilwell.
19.	Farm Life in the Fall	Mrs. Atwood.
23.	China (Current History)	Miss Foster.
24.	China (Geography)	Miss Baber.
25.	Home Life	Miss Allen.
26.	Seed Distribution	Mr. Flint.

Historical Events and Birthdays

October 3	George Bancroft	1800
" 4	Battle of Germantown	1777
" 6	Jenny Lind	1821
" 8	Paul Rembrandt	1669
" 9	Chicago Day	1871
" 9	Cervantes	1547
" 10	Benjamin West	1738
" 12	Hugh Miller	1802
" 14	William Penn	1644
" 16	Noah Webster	1758
" 17	Burgoyne's Surrender	1777
" 19	Cornwallis' Surrender	1781
" 21	Landing of Columbus	1492
" 25	Geoffrey Chaucer	1328
" 25	T. B. Macaulay	1800
" 29	John Keats	1796
" 30	Richard B. Sheridan	1751
" 31	Halloween	

LA BERGERE.*

(FRENCH NONSENSE SONG.)

1. Il é - tait un ber - gè - re, Et ron, ron, ron, pe - tit
2. El - le fit un fro - ma - ge, Et ron, ron, ron, pe - tit
3. Le chat qui la re - gar - de, Et ron, ron, ron, pe - tit
pa - ta - pon, Il é - tait un ber - gè - re Qui
pa - ta - pon, El le fit un fro - ma - ge Du
pa - ta - pon, Le chat qui la re - gar - de D'un
gar - dait ses mou-tons, ron, ron, Qui gar - dait ses mou - tons.
lait de ses mou-tons, ron, ron, Du lait de ses mou - tons.
pe - tit air fri - pon, ron, ron, D'un pe - tit air fri - pon.

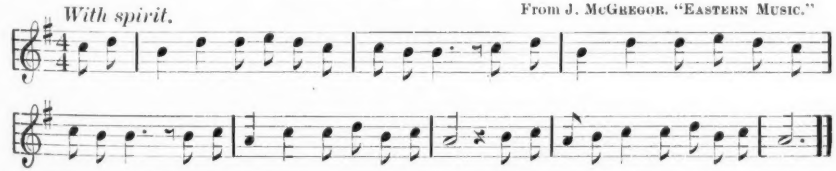
4

"Si tu y mets la patte,
Et ron, ron, ron, petit patapon,
Si tu y mets la patte,
Tu auras du bâton,
Ron, ron,
Tu auras du bâton.

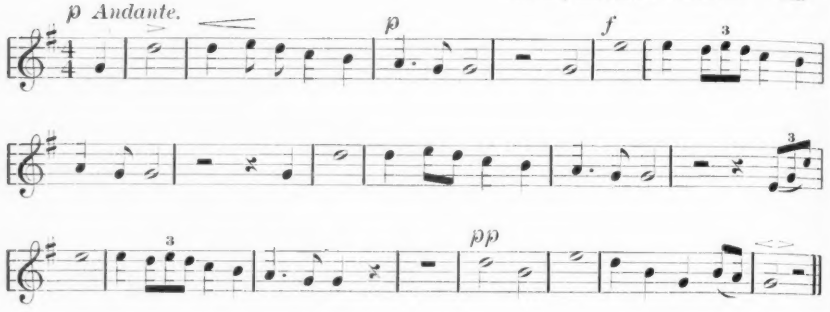
5

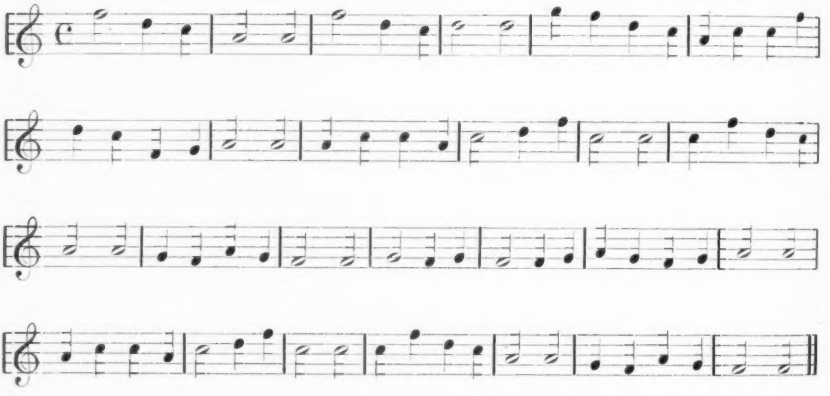
Il n'y mit pas la patte,
Et ron, ron, ron, petit patapon,
Il n'y mit pas la patte,
Il y mit le menton,
Ron, ron,
Il y mit le menton.

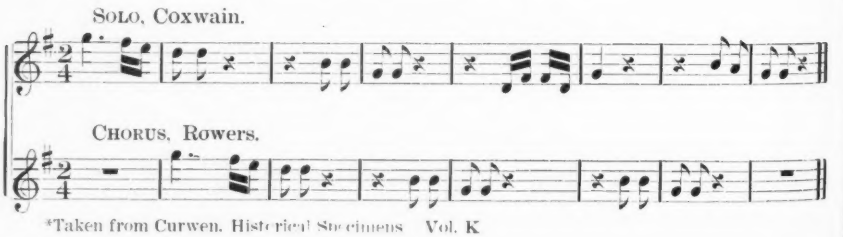
NILE BOAT SONG.

From J. McGregor. "Eastern Music."

*Note: English text for this song in Book I. "O round and round we're going."

GREEK LULLABY.

CURWEN, HISTORICAL SPECIMENS. Vol K.

CHINESE AIR.

From NAUMANN, "HISTORY OF MUSIC."

CHINESE SONG OF ROWERS.*

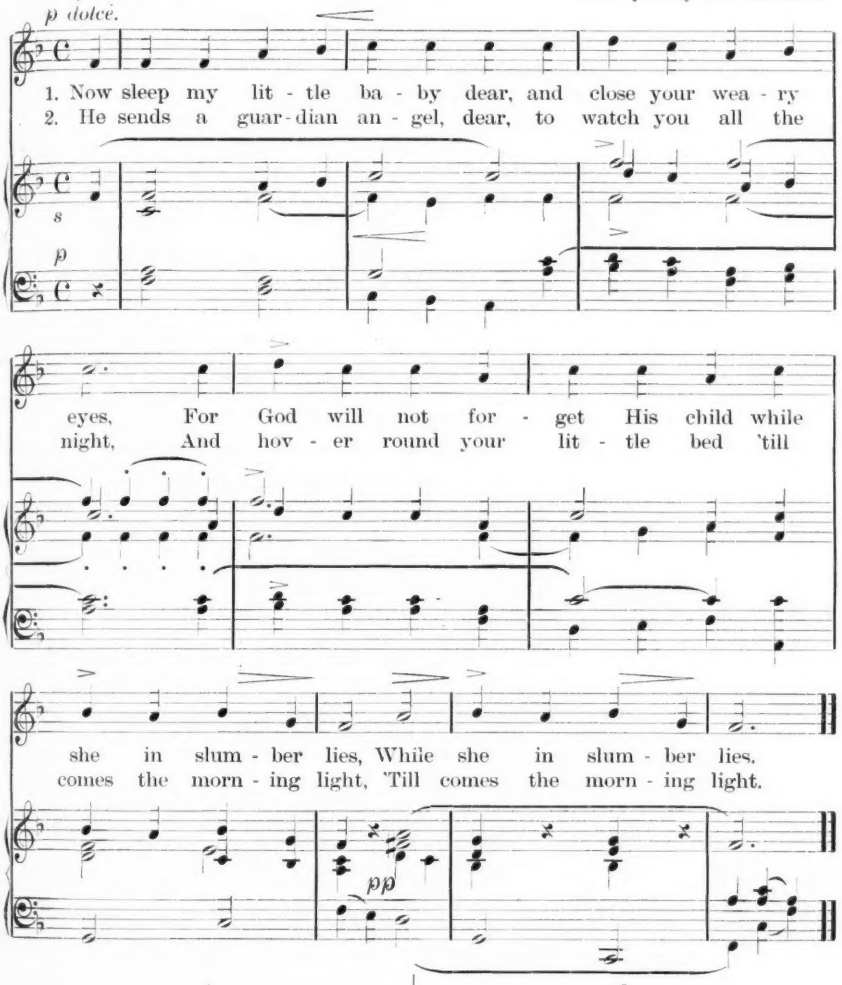


*Taken from Curwen. Historical Specimens. Vol. K

A CRADLE SONG.

(EIN WIEGENLIED.)

T. by H. G.

OLD GERMAN, 1580.
Piano part by DR. REIMANN.

p dolce.
1. Now sleep my lit - tle ba - by dear, and close your wea - ry
2. He sends a guar-dian an - gel, dear, to watch you all the
s
p
eyes, For God will not for - get His child while
night, And hov - er round your lit - tle bed 'till
she in slum - ber lies, While she in slum - ber lies.
comes the morn - ing light, 'Till comes the morn - ing light.
pp

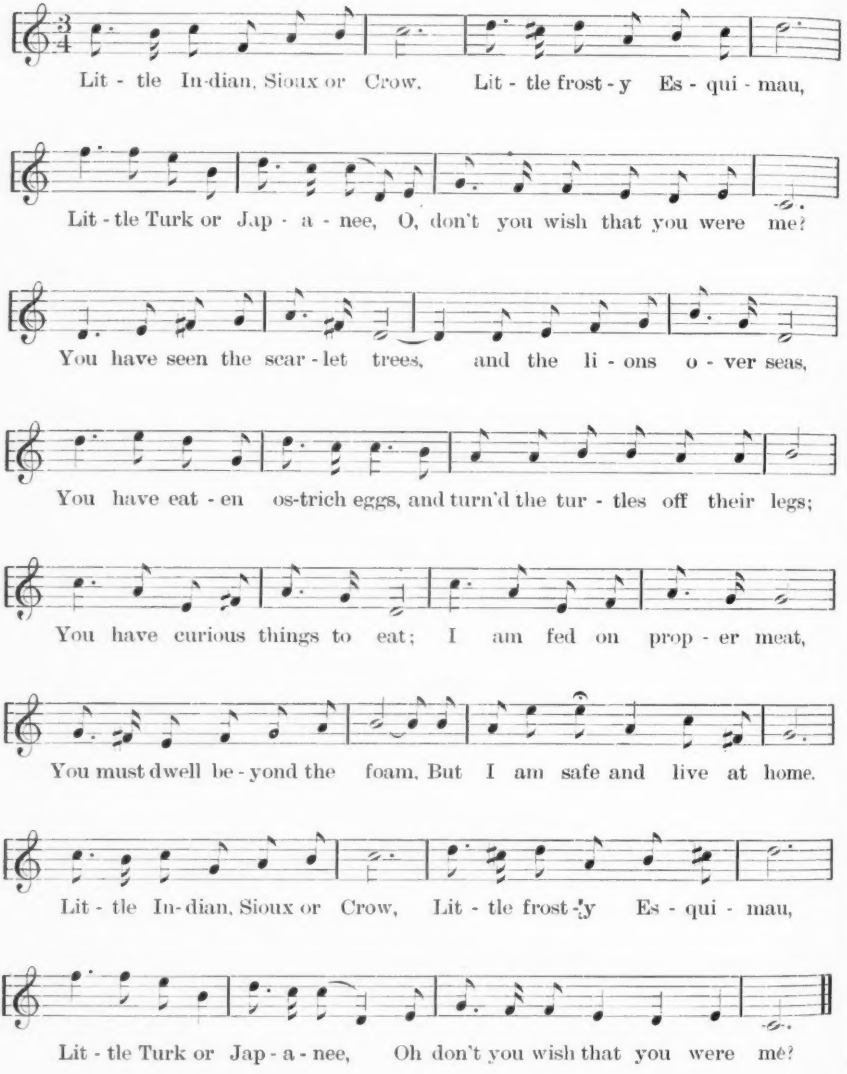
1

Nun schlaf', mein liebes Kindelein
Und thu' die Äuglein zu,
Den Gott, der will dein Vater sein
Drum schlaf' in guter Ruh'.

2

Er send' dir auch sein Engelein
Zu Hütern Tag und Nacht
Das sie bei deiner Wiegen sein.
Und halten gute Wacht.

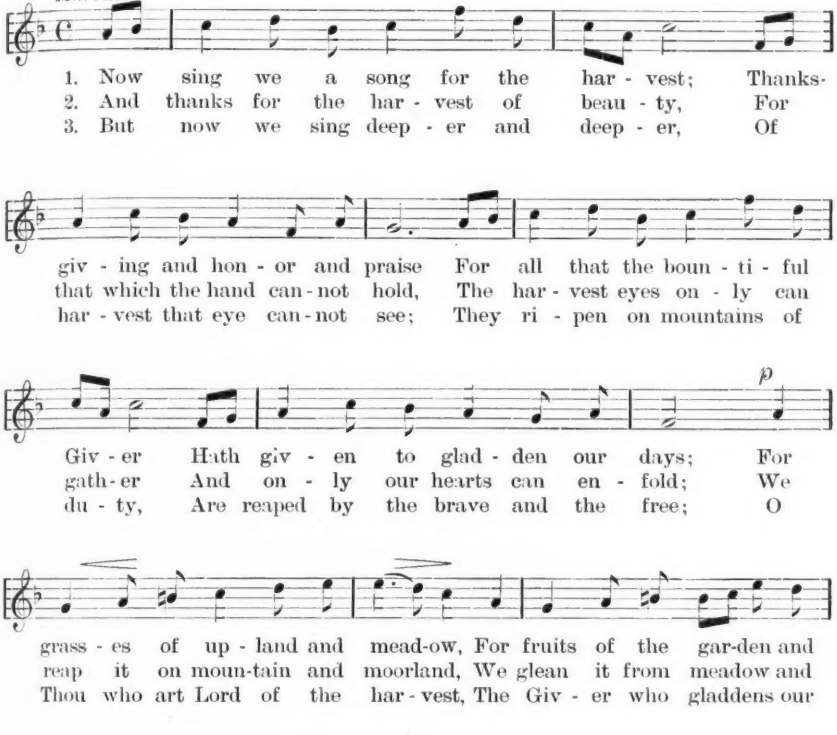
FOREIGN CHILDREN.*

ROBERT LOUIS STEVENSON. ELEANOR SMITH.

Lit - tle In-dian, Sioux or Crow, Lit - tle frost - y Es - qui - mau,
Lit - tle Turk or Jap - a - nee, O, don't you wish that you were me?
You have seen the scar - let trees, and the li - ons o - ver seas,
You have eat - en os-trich eggs, and turn'd the tur - tles off their legs;
You have curious things to eat; I am fed on prop - er meat,
You must dwell be - yond the foam, But I am safe and live at home.
Lit - tle In-dian, Sioux or Crow, Lit - tle frost - y Es - qui - mau,
Lit - tle Turk or Jap - a - nee, Oh don't you wish that you were me?

*FROM TWELVE SONGS FOR TWELVE BOYS. Ludden and Bates.

HARVEST SONG.*

J. W. CHADWICK. ELEANOR SMITH.

Marcato.

1. Now sing we a song for the har - vest; Thanks-
2. And thanks for the har - vest of beau - ty, For
3. But now we sing deep - er and deep - er, Of
giv - ing and hon - or and praise For all that the boun - ti - ful
that which the hand can - not hold, The har - vest eyes on - ly can
har - vest that eye can - not see; They ri - pen on mountains of
p
Giv - er Hath giv - en to glad - den our days; For
gath - er And on - ly our hearts can en - fold; We
du - ty, Are reaped by the brave and the free; O
grass - es of up - land and mead-ow, For fruits of the gar-den and
reap it on moun-tain and moorland, We glean it from meadow and
Thou who art Lord of the har - vest, The Giv - er who gladdens our
field, For gold, which the mine and the
lea; We gar - ner it in from the
days, Our hearts are for - ev - er re -
pra - rie To delv - er and hus - band - man yield.
cloud-land; We bind it in sheaves from the sea.
peat - ing Thanks - giv - ing and hon - or and praise!

*From SONGS OF LIFE AND NATURE. Scott, Foresman and Co.

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